An Investigation into English Language Teachers' Understanding of their Roles in Computer-Assisted Language Learning Context

by

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Declaration of Originality

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The research associated with this thesis abides by the international and Australian codes on human and animal experimentation, the guidelines by the Australian Government's Office of the Gene Technology Regulator, and the rulings of the Safety, Ethics and Institutional Biosafety Committees of the University. This research is approved by the Tasmania Social Sciences Human Research Ethics Committee (reference No. H0015935).

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Abstract

The integration of new technologies into second language teaching and learning has influenced language teachers' roles and responsibilities, leading to an ongoing enquiry about teachers' perceptions of and reactions to these changes. This exploratory mixed-methods study investigated how English as a Foreign Language (EFL) teachers in Iran define and understand their role expectations in Computer-assisted Language Learning (CALL) at different levels; and how these definitions impact their teaching practices. Informed by Biddle's (1986) role theory, as well as Hubbard and Levy's (2006) CALL teacher framework, the aim was to ascertain the mutual expectations of EFL teachers, learners and Private Language School (PLS) administrators concerning the development, selection and use of new technologies in language teaching/learning contexts. This study also investigated and identified the CALL teacher training types in the Iranian context and their effectiveness in shaping and enhancing teachers' use of new technologies.

A total of 148 Iranian EFL in-service teachers (8 for classroom observations and interviews; 140 for the survey), 4 EFL students, and 4 PLS administrators participated in this study. The research commenced with a qualitative phase, in which the investigator explored the participants' behaviours and perceptions on the subject using observation and interview methods (Creswell, 2014). Once the qualitative study was conducted, and data were analysed, the findings of this stage shaped the structure and content of the second phase, which was quantitative (i.e., survey with 58 questions). Qualitative data were analysed and interpreted using both content (Kumar, 2011) and thematic analysis (Braun & Clarke, 2006) methods. The quantitative data gathered from the survey in the second phase were analysed by descriptive and inferential statistics.

The findings showed that the participants reported minor role changes for the teachers, due to limited and irregular use of CALL in the Iranian PLSs. The results of the thematic analysis showed examples of mismatch between teachers' and learners' definitions and expectations of the roles of teachers in CALL, in relation to technological literacy. CALL teachers had relatively high expectations of themselves, which seemed to create a gap between their current and desired knowledge of new technologies. This role conflict caused teachers to be reluctant to implement CALL. The findings highlighted that the majority of the teachers perceived themselves as consumers of CALL materials, due to availability and accessibility factors. Despite their positive perceptions towards becoming CALL material developers, the teachers voiced existing contextual barriers, such as inadequate CALL literacy, time limitation, and lack of support from the PLSs.

In relation to CALL training, the research revealed that the amount and type of current training did not result in teachers' normalised use of new technologies. It became evident that teachers were mainly self-trained, in the absence of formal CALL training by the PLSs and TESOL courses at the university level. Teachers identified workshop and peer-learning as their preferred ways of learning CALL, however, a minority experienced these training mediums. This evidence highlights the need for considerable changes in the content and structure of the training programs provided in the Iranian PLSs and universities. Self-edification and lack of instructional design seemed to result in sporadic and non-systematic use of CALL among the Iranian EFL teachers. It is recommended that the PLSs should provide context-specific CALL training to promote the regular and systematic use of technologies by the teachers. The findings also indicated that teachers need more institutional support to foster their engagement with CALL practices.

Dedication

This study is wholeheartedly dedicated to my beloved parents, who have been my source of inspiration and gave me strength and continually provide their moral, spiritual, emotional, and financial support.

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List of Abbreviations

ACCE	Australian Council for Computers in Education
AR	Augmented Reality
CALI	Computer-assisted Language Instruction
CALICO	Computer Assisted Language Instruction Consortium
CALL	Computer-assisted Language Learning
CLT	Communicative Language Teaching
CMC	Computer-Mediated Communication
EFL	English as a Foreign Language
GTM	Grammar Translation Method
ICT	Information Communication Technology
ISTE	International Society for Technology in Education
LMS	Learning Management System
MR	Mixed Reality
PLATO	Programmed Logic for Automated Teaching Operations
PLC	Professional Learning Communities
PLS	Private Language School
REP	Rule, Example and Practice
SLA	Second Language Acquisition
TBLT	Task-Based Language Teaching
TEFL	Teaching English as a Foreign Language
TESOL	Teaching English to Speakers of other Languages
TICCIT	Time-shared Interactive Computer Controlled Information Television
TTC	Teacher Training Course
VW	Virtual World
WWW	World Wide Web

Chapter 1
Introduction

1.1 Introduction

New digital technologies such as computers are considered to be a normal part of many people's everyday lives. This integration, however, has not always been the case. In 1949, The Star newspaper in Britain speculated about computers' capability for helping human beings with income-tax and book-keeping calculations. Today, we witness that not only these speculations are confirmed, but also a plethora of everyday tasks are undertaken using computers. In recent years, new digital technologies, like the Internet and smartphones, play enormously important roles in people's everyday lives, and many routine activities are exceedingly difficult, if not impossible, to perform without using a particular technology. The Internet and its countless affordances, such as World Wide Web, are accessible 24/7; we transport and carry loads of data in small-size memory sticks; and our portable mobile phones provide us with applications ranging from taking photos to online payment with face detection technologies (e.g., iPhone Face ID).

Technology has changed the way we live and perform tasks, and in the 21st century, people are learning in new ways (Godwin-Jones, 2016). Learning new subjects is no longer limited to the classroom environment and the use of paper and pencil. These changes require educational experts and decision makers to design and develop instructional programs, which would embrace the occurring transformations, and respond to them constructively (Chapelle & Sauro, 2017). Despite this, the educational sector has demonstrated a varying degree of technology integration in various disciplines and contexts. Countries around the world have different policies and plans for the integration of technology, based on their educational policies and technological infrastructure (Gonzalez & Louis, 2011).

Meanwhile, various national and international organisations set frameworks and standards for the use of technology in Education. The ISTE (International Society for Technology in Education), for instance, founded in 1979 in the United States, provides standards for technology use in education for different stakeholders, including students, educators, administrators, coaches and computer science educators. In another example, ACCE (Australian Council for Computers in Education) promotes and guides the use of technology in the Australian educational context.

One major learning area in today's world is second/foreign/additional language learning. The increased globalisation has motivated many people around the world to learn new languages to be able to communicate effectively with others from different cultures and linguistic backgrounds to achieve various goals, including socialisation and commerce (Yang & Chen, 2014). The English language, undoubtedly, as the lingua franca of the century, and the language of science and international communication, has been the target of millions of language learners worldwide. The ways of language learning have changed dramatically too (Godwin-Jones, 2016). New digital technologies have proven to be useful in facilitating the learning of new languages (Lamy & Hampel, 2007). The level of integration of technologies

ranges from simple use of email exchanges, for instance, to completely online delivery of language lessons.

Use of new technologies in foreign language teaching and learning, particularly, has increased in recent years, and this has led to the emergence of new research issues and enquiries (Thomas, Reinders & Warschauer, 2013). Moreover, the integration of technology with second/foreign language teaching and learning in recent decades, which is widely known as computer-assisted language learning (CALL), has opened up new opportunities for target language learning (Donaldson & Haggstrom, 2006). This synergy has resulted in the development of new orientations in the process. By using CALL, teachers have access to a variety of teaching practices and techniques. They can, for example, sustain their connection with the students after class hours by using Internet-based online tools or provide students with multimodal target language input. Students, likewise, can learn a target language in a more individualised mode, which is highly demanded in the increasingly diversified classes nowadays.

Design and implementation of CALL, however, is not a single and straightforward process. A simple 'plug-and-play' approach to the implementation of computers in language teaching/learning has proven to be ineffective (Cuban, 2009). Thomas et al. (2013, p. 2) asserted, "technology alone cannot improve the delivery of knowledge then; a new computer cannot make a teacher better. Nor can it provide a magic formula to improve learning". Various contributing and contextual factors need to be considered for the integration of technology into language teaching and learning environment. These factors include:

- teachers' and students' attitudes toward and perceptions of technological tools (Ayre, 2002; Liaw, Huang & Chen, 2007; Vandewaetere & Desmet, 2009),
- teachers' training (Hampel, 2009; Kessler, 2006; Wang, Chen & Levy, 2010)
- digital literacy (Lotherington & Jenson, 2011)

- availability of and access to new technologies (Chun, 2016; Gonzalez & Louis, 2013)
- institutional policies and structures (Belz, 2001)
- contextual elements (Egbert, Paulus & Nakamichi, 2002)
- cultural features (Thorne, 2003)
- learners' characteristics (Lee, 2016)

While each of these factors is of considerable importance, it is widely agreed that teachers perform the central role in effective integration of the technological tools and affect the outcomes of CALL through their instructions, scaffolding, feedback and responses (Arnold & Ducate, 2015). Guichon and Hauck (2011) view teachers as the centre of all of the activities happening in the classroom and emphasise their important role by calling them the 'lynchpin' around which teaching and learning processes revolve. With the introduction of technology as a teaching aid, new roles and responsibilities are perceived for the teachers and, consequently, teachers need to gain the required literacies and skills (i.e., knowledge about how, when, and where to use new technologies) in relation to the nature of technology being used (Beatty, 2013).

Research on CALL shows that the mere acquisition of technological knowledge and digital literacy do not necessarily lead to the teachers' optimal use of technology in and outside the classroom environment (Donaldson & Haggstrom, 2006). In a wider perspective, Comas-Quinn (2011) considers that the successful use of technology in education depends on how effectively teachers support the transition from their face-to-face classroom roles to a technology-enhanced environment, which requires specific roles and responsibilities. Teachers of varying teaching experiences and gender may also interpret this transition differently (Hubbard, 2008a). Previous studies have investigated the teacher factor mainly through two lenses; firstly, CALL teacher education and its impact on teachers' practical use of new technologies (e.g., Egbert, Paulus & Nakamichi, 2002), and secondly, teachers'

attitudes towards and perceptions of technology-integrated language teaching (e.g., Martine, 2006).

What is not yet abundantly clear is how language teachers' experience the transition from their conventional roles to technology-integrated roles in CALL (Arnold & Ducate, 2015). This means the existing accounts fail to comprehensively describe how teachers perceive and define their roles in a technology-integrated class and how these definitions impact their teaching practices. The most relevant research in this regard was conducted by Hubbard and Levy (2006). In their proposed framework, they put forward two main functional and institutional roles for different stakeholder in the CALL context. One major criticism, however, to this framework is that despite claiming that it has a descriptive nature, the teachers' voice is not incorporated.

Accordingly, drawing on the principles of this framework (functional and institutional roles), as well as Biddle's (1986) role theory, the aim of this study was to investigate the Iranian English as a Foreign Language (EFL) teachers' understandings of their roles and expectations of themselves in various stages (i.e., design, implementation and evaluation) of CALL instruction. Moreover, this study included other stakeholders' (i.e., students and school administrators) voices. It was then investigated how teachers' perceptions of their roles affect their real-life CALL-integrated teaching practices. Finally, the study investigated current CALL teacher training in the Iranian context and its impact on teachers' CALL practices.

1.2 Statement of the problem

Computer-assisted language learning (CALL) is a relatively new phenomenon in the Iranian private language schools (PLSs) (Hedayati, Reynolds & Bown, 2018). The reason for limiting this study to the PLSs was that the majority of the language learners (especially adult

learners) in Iran take courses in the PLSs to learn a target language in a communicative way (Khoshsima & Toroujeni, 2017). While language units are embedded in the National Curriculum of Iran and are offered in public schools, lack of competent language teachers and limited class hours in those contexts motivate language learners to seek better language learning experiences in PLSs (Mohammadian Haghighi, & Norton, 2017). The increase in the number of EFL learners in Iran necessitates language schools to upgrade their structural equipment and modify methodological approaches to meet the learners' need. Besides, Iranian EFL learners have limited opportunities for interaction in the target language, and this interaction is usually not authentic. Given this, the use of technology in an EFL context can help a large number of language learners to have access to authentic interaction in the target language and improve their communicative skills. PLSs, as the leading providers of foreign language instruction in Iran, are usually equipped with technological apparatus such as computers, projectors and TVs, and there are schools which operate equipped multi-purpose language laboratories. Despite the existence of these technological facilities, few teachers are willing to integrate technology into their teaching practices, and these technological tools usually remain untouched (Hedayati & Marandi, 2014).

Research shows that CALL has attracted Iranian EFL teachers' attention, and they have expressed positive attitudes towards integrating new technologies into their teaching practices (Fatemi Jahromi & Salimi, 2013; Zare-Ee, 2011). As reported in other contexts (Godwin-Jones, 2015), teachers' positive attitudes, however, have not necessarily resulted in their practical and optimum use of new technological tools. Prior research indicates the existence of several barriers and challenges that hinder teachers' use of technology in the Iranian context: time constraints, lack of computer-based facilities, lack of financial and technical support, inadequate teacher training program (Dashtestani, 2014). Similarly, in Hedayati & Marandi's (2014) study, three main barriers were identified as teacher constraints

(e.g., lack of CALL preparation), facility constraints (e.g., limited access to technology) and learner constraint (e.g., insufficient digital literacy).

This study aimed to investigate the underlying reasons for teachers' limited use of new technologies by implementing a psychosocial approach and exploring their understandings of their roles and responsibilities in the CALL context, considering the contextual factors and barriers. It was also anticipated that understanding the CALL teachers, students and administrators' expectation of their roles would contribute to establishing a sound connection among these stakeholders to achieve the optimum use of new technologies for language learning purposes in the PLSs.

1.3 Purpose of the Study

This mixed-methods study intended to investigate and understand how Iranian EFL teachers perceive and define their roles in the CALL context and how these perceptions affect their practices. An explanatory mixed methods design was used to, first, explore teachers' definitions of their roles and practices qualitatively (through observation and interview) with a smaller sample of EFL teachers (n=8), students (n=4) and PLS administrators(n=4). Subsequently, a questionnaire was designed (using qualitative findings and the related literature) to be tested with a larger sample of Iranian EFL male and female teachers from various cities of Iran. In addition, the nature of teachers' role transition from traditional face-to-face to CALL context is explored qualitatively. The other intent of the current study was to investigate the expectations of Iranian EFL teachers, students, and PLS administrators of teachers with regard to the implementation of technology, to identify the potential mismatches. It is believed that the findings of this study would help teachers to have a better understanding of their roles in CALL instruction in the Iranian context.

1.4 Significance of the Study

The significance of this study was threefold. First, this research attempted to provide us with a better understanding of the reasons for Iranian EFL teachers' reluctance to use new technologies in their teaching practices. In pursuit of investigating demotivating reasons, previous research mainly focused on teachers' attitudes toward technology, whereas, this study explored how teachers define their roles in the classroom as a social context in various stages of CALL. That means, it attempted to shift the focus from technology to human factor to investigate if teachers believe the integration of technology has affected their conventional roles and responsibilities. Moreover, the inclusion of the other stakeholders' (i.e., students and PLS administrators) voices provided a deeper understanding of the phenomenon.

Secondly, this study investigated the types of CALL training that Iranian EFL teachers received and how the training types affected their use of new technologies in their classroom practices. Prior to this study, far too little attention had been paid to the CALL teacher education/training in the Iranian context. It is suggested that the findings of this study could contribute to the development of context-specific CALL training for the Iranian EFL teachers and promote the use of the new technologies in their teaching practices. Finally, this study attempted to provide practical data for the theoretical CALL teacher framework proposed by Hubbard and Levy (2006). This model suggests various institutional and functional roles for CALL teachers. The present study compared the roles that Iranian EFL teachers perceived for themselves with those roles proposed in Hubbard and Levy's model.

1.5 Research Questions

To fulfil the objectives of the current study and address the problems stated in section 1.2, the following questions were framed. These questions were focused on the population of

the Iranian EFL teachers to explore and identify their perceptions and practices in this particular context.

- RQ1: How do Iranian EFL teachers understand their roles and responsibilities with regard to CALL?
- RQ2: To what extent do Iranian EFL teachers' perceptions of their roles affect their use of CALL?
- RQ3: What are the expectations of Iranian EFL students and school administrators with regard to the use of CALL by Iranian EFL teachers?
- RQ4: What are the common CALL teacher training types in Iran and their impact on teachers' CALL practices?

The first research question attempted to investigate the Iranian EFL teachers' understandings of their roles and expectations of themselves in various stages (i.e., design, implementation and evaluation) of CALL instruction. The rationale behind framing this question was to explore teachers' role perceptions based on the theoretical framework of the study (see 1.6). The second research question attempted to investigate the similarities and differences between teachers' perceptions and their classroom practices to identify possible gaps in this area. In the third research question, the aim was to compare different stakeholders' perceptions with regard to CALL teachers' roles and responsibilities. The idea was to highlight the possible misconceptions and find the possible ways for creating a collaborative environment in a CALL context by defining the roles of the various stakeholders. Finally, the last research question was framed to investigate the teachers' experiences of CALL training and its impact on their current technology-integrated practices.

1.6 Theoretical Framework

The conceptualisation of teachers' roles adopted for this research is based on the CALL teacher framework proposed by Hubbard and Levy (2006). It also draws on the psychological and social aspects of the 'role theory' proposed by Biddle (1986). In their framework, Hubbard and Levy distinguish between functional and institutional roles for teachers and other participants involved in CALL instruction. Functional roles extend teachers' responsibilities beyond being a practitioner, and perceive them as developers, researchers, and trainers as well. From an institutional angle, teachers perform their roles in cooperation with CALL specialists and CALL professionals. This framework also differentiates between CALL knowledge and skills, which is concerned with how teachers transfer their knowledge about CALL into the practical use of technological tools. By building on this framework, the present study investigated teachers' roles in four dimensions of CALL, namely, design, implementation, evaluation and training. The aim was to explore to what extent Iranian EFL teachers perceived their roles and responsibilities in CALL in congruence with the framework proposed by Hubbard and Levy (2006).

The present study was also informed by Biddle's (1986) conception of role theory. This theory, which drives on social and psychological concepts, "explains roles by presuming that persons are members of social positions and hold expectations for their own behaviours and those of other persons" (Biddle, 1986, p. 67). According to this concept, human beings exhibit a set of behaviours which are based on their social identities and the situation in which they perform their roles. By drawing on this theory, this study attempted to investigate the roles of Iranian EFL teachers in a technology-integrated language teaching environment. It attempted to understand teachers' perspectives on the changes to their roles and responsibilities made by the integration of technology (see 2.4.1.1 for further discussion).

Chapter 2
Literature Review

2.1 Introduction

The term computer-assisted language learning (CALL) is generally used to refer to the utilisation of new technologies in second language teaching and learning (Davies, Otto & Ruschoff, 2013). Accordingly, throughout this study, CALL refers to the integration of new digital technologies into second/foreign language learning. The literature review presented here aims to introduce and discuss the role of the teacher in CALL instruction in general, and in particular the Iranian context. Prior to this, to become familiar with the relevant theoretical background of computers and language acquisition synergy, the review will begin by going through the theories and models in CALL, together with presenting a brief history on how computers began to be implemented in language teaching/learning.

Afterwards, the review will continue with explaining various applications of CALL; and how other factors contribute to or deter successful implementation of it. Papers selected for this part are mostly case studies reporting on the results of the implementation of various

technologies for language teaching and learning in different countries. Although the literature presents various factors that affect the implementation of CALL, this research primarily focused on the role of the teachers at different stages of CALL evolution.

Succeeding sections will introduce the two theories and models that set the theoretical framework of the current study, namely Hubbard and Levy's (2006) CALL teacher framework and Biddle's (1986) role theory. The review will continue with how these two models have contributed to teacher education/training research and practice. The chapter will conclude with reviewing the literature concerning CALL in the Iranian context, particularly referring to CALL teacher factor and the associated present research gap in this area. CALL is a relatively new phenomenon in the Iranian private language schools (PLSs), and this novelty necessitates conducting studies in this area to design and develop context-specific programs to forge effective integration (Hedayati, Reynolds & Bown, 2018). Implementation of the technologies, such as the Internet, into second/foreign language teaching and learning requires a comprehensive understanding of the educational context and the factors that may affect the planning, process and outcome of this synergy (Egbert, Huff, McNeil, Preuss & Sellen, 2009). Adopting a simple plug-and-play approach to computers has proven to be ineffective (Cuban, 2009).

Despite the Iranian EFL teachers' expression of positive attitudes towards the implementation of CALL (Zare-Ee, 2011), it appears that not many teachers engage in the active and practical use of new technologies in their practices (Hedayati & Marandi, 2014). Considering that the Iranian culture and schools differ substantially from those generally included in the explorations of CALL, and the respective existence of research gap in this area, this study attemptsed to investigate how Iranian EFL teachers define and foresee their roles and responsibilities in CALL contexts and how their practices are affected by their understandings of their roles.

2.2 Computer-assisted Language Learning

As defined by Levy (1997), computer-assisted language learning is “the search for and study of applications of the computer in language teaching and learning” (p.1). It is worthy to note that for this thesis, the term computer refers to new digital technologies such as personal computers, smartphones, and the Internet. Beatty (2013) defines CALL as “any process in which a learner uses a computer and, as a result, improves his or her language” (p.7). Despite numerous terminologies (e.g., CALI standing for Computer-assisted Language Instruction) CALL as an acronym, which first appeared in a conference paper by Davies and Steel in 1981, still remains to be the widely used term to address the research and practice on the use of computers in second/foreign language teaching and learning (Davies, Otto & Ruschoff, 2013).

Based on Levy (1997) and Beatty’s (2013) definitions, in any second or foreign language teaching and learning context that includes various forms of technology, CALL is practiced. For this reason, considering the widespread availability and implementation of digital technologies in current language instruction environments all around the world, many language teachers, as well as learners, are more or less involved in CALL. Similarly, in the Iranian context, several PLSs are equipped with technologies that could be used for language teaching and learning (Hedayati, Reynolds & Bown, 2018). Research, however, has shown that the successful and effective implementation of CALL is not straightforward and simple (Cuban, 2009).

As CALL came to existence after the invention of computers and recent digital technologies, it has always been significantly affected by the advent of newer technologies and gadgets (Beatty, 2013). The limited yet innovative implementation of CALL, for example, in the 1960s in the PLATO project is vastly different in comparison to internet-

based CALL practices in recent years. Modern technologies offer substantial opportunity for authentic communication, synchronous or asynchronous, which help language learners to receive and produce target language input and output. In the early years of CALL in the 1960s, however, the use of technology in language instruction was mostly limited to drill and repetition exercises (Beatty, 2013).

During the last two decades, however, the pace of technological innovations has increased dramatically, and these continuous changes bring about new challenges for studying and implementing CALL. As Levy (1997) points out, the rapid development of new technologies and their integration into education outpace the educators' ability to evaluate these properly and gauge their pedagogical capacities. It could be imagined that this gap is even further widened due to the technological developments in recent years. As Levy (1997) suggests this is why CALL research and practice should not be led by technology, and it needs to be informed by the theories of second language acquisition (SLA) and other relevant disciplines such as psychology and sociology (Davis et al., 2013). This approach could help us to create a more balanced position for the highly volatile technology in the field of language instruction.

To draw a road map for the integration of technology and language instruction, CALL has continued to be regarded as a distinct discipline in the field of applied linguistics (Chapelle, 2003). A large number of CALL-related articles are continuously published in the International journals dedicated to CALL, such as Computer Assisted Language Instruction Consortium (CALICO), Computer-Assisted Language Learning, ReCALL, Language Learning and Technology, and Innovation in Language Learning and Teaching. These articles cover subjects ranging from reports on technology-integrated classroom practices (Zou, Wang & Xing, 2015) to theoretical frameworks for the implementation and evaluation of CALL (Chapelle, 2009). Furthermore, from the very early stages of CALL to more recent

times, several books have been published in relation to CALL research and practice. These include *Computers in the language classroom* (Hertz, 1988), *Computer-assisted language learning: Context and conceptualization* (Levy, 1997), *English language learning and technology* (Chapelle, 2003), *Technology and social inclusion* (Warschauer, 2003), *CALL research perspectives* (Egbert & Petrie, 2005), *Teacher education in CALL* (Hubbard & Levy, 2006), *Contemporary computer-assisted language learning* (Davies, et al., 2013) and *The Handbook of Technology and Second Language Teaching and Learning* (Chapelle & Sauro, 2017).

CALL, however, is not limited to articles and books, for numerous conferences in different parts of the world are being held annually to bring together CALL practitioners and researchers to discuss the latest issues (Plonsky & Ziegler, 2016). Importantly, CALL is now being taught as a distinct course of study at several universities and graduates receive bachelors, masters, and PhD degrees in CALL. These examples highlight CALL as a distinct research field, which encourages the synergy between technology and language learning (Plonsky & Ziegler, 2016). There are also concerns, however, about the future of CALL, and some scholars invite early-career researchers to select CALL as their area of expertise. Hubbard notes, for example, that "if CALL is to survive and prosper, then we need a dedicated cadre of graduate students, especially doctoral students, willing to select CALL as their area of specialisation" (2008, p. 185). Irrespective, recent research trends in second language acquisition (SLA) indicate that CALL is widely studied and investigated by the researchers all around the world, and this field of study continues to undertake its role in SLA.

The variety of subjects in CALL publications highlights that this field is interdisciplinary in nature and "draws on a range of other fields such as psychology, sociology, natural language processing, linguistics, artificial intelligence, human-computer

interaction and computer science for pedagogical and technological innovations" (Davies, et al., 2013, p. 4). Although due to the popularity of behaviourist approaches, early uses of technologies in language learning adopted rote learning (e.g., drills and repetitions), recent technological developments have set the ground for the application of more interactive and communicative practices (Beatty, 2013). Using social media means that language learners can connect to native speakers of the target language and engage in real-life interaction to enhance their communicative competences (Hung & Higgins, 2016).

Moreover, new generation students, referred to as 'digital natives', are often competent and proficient users of new digital technologies, and they can become producers of learning materials (Prensky, 2001). In other words, school is not the only place that students have access to technological tools because many of them have their own mobile digital devices such as smartphones and tablets. This accessibility can help them to become involved in language learning not only in the classroom context but also outside the school environment. In addition, with the onset of new technologies such as social media and social networking, language learning processes now often reflect social activities, and this requires the adoption of a sociocultural approach to CALL research (Levy & Stockwell, 2006). Given this, teachers, as the leading facilitators of the learning process, need to gain the necessary technological knowledge and skills to be able to perform new roles in technology-integrated educational environment (Hubbard & Levy, 2006).

Another determining factor in CALL is 'context'. Chapelle (2003) asserts that "teachers and researchers should carefully analyse their real options in view of the experience of others and their own context and experience" (p. 10). These factors will be reviewed in more detail in the following sections. Given the elements mentioned above, an interdisciplinary approach toward CALL research and practice will help to develop frameworks and models that consider language, human, technology, and contextual factors.

In this section, an overview of computer-assisted language learning and the area of research have been presented. The following section will cover a brief history of CALL, starting from the 1960s and continuing to the present time. This historical background will provide information about the developments and milestones in the literature of CALL. Reviewing the history of CALL can lead to a more in-depth understanding of the use of technologies in language instruction in the present time.

2.2.1 Historical Perspective on CALL

The history of CALL, beginning in the early 1960s, has been extensively recorded in various studies (Beatty, 2013; Davies, Otto & Rüschoff, 2013; Levy, 1997). A summary of this history is presented below to review and better understand how computers entered language teaching and learning context and how CALL evolved. More than half a century ago, soon after the large-scale computers were invented, attempts were made to use computers for language teaching and learning. Most of the early CALL programs, which were mainly developed in the United States, were pedagogically informed by Grammar Translation Method (GTM), behaviourist models of cognitive theory and Audiolingualism (Davies et al., 2013).

Two examples of significant CALL projects that commenced in the 1960s were PLATO (Programmed Logic for Automated Teaching Operations), which was developed at the University of Illinois, and TICCIT (Time-shared Interactive Computer Controlled Information Television), at the University of Texas and Brigham Young University. These large-scale projects were heavily funded, each costing nearly five million dollars (Levy, 1997). Although these projects had limited applications, they were revolutionary and contributed to the generation of many technologies that we use today, such as email and instant messaging (Davies et al., 2013).

The PLATO project was a cutting-edge computer-based educational system, which was developed and conducted over four decades, beginning in 1960. There is an understanding that CALL emerged from the introduction of PLATO (Levy, 1997). The basic system consisted of a central computer and terminals, which provided language learners with drills, grammatical descriptions and translation practices at different intervals (Warschauer & Healey, 1998). The latest versions of PLATO, however, encouraged teachers and students to engage in communication through a restricted form of e-mail scheme. Despite the PLATO project being revolutionary at the time, it was not capable of meeting needs of all the language learners; it mainly helped students with vocabulary and grammar drills, allowing more class time for language production (Levy, 1997). Beatty (2013) asserted that "the Grammar Translation approach probably appeared to work to a limited degree in early programs such as PLATO because the learner would have to adapt to the materials by creating personal learning strategies beyond those offered by the teacher or suggested by the learning materials" (p.21). PLATO, however, was not solely used for language learning purposes, and it covered other subject areas such as mathematics. Basic versions of many of the digital technologies used today, such as e-mail and instant messaging systems, were developed on the PLATO platform. A complete review of this project is available in Levy (1997).

Another large-scale project of the time for computer-assisted instruction was TICCIT, which was launched in 1972 (Davies, et al., 2013). This project was developed as interactive cable television; however, it was later used for educational purposes, and particularly language learning (Davies et al., 2013). One distinctive feature of TICCIT in comparison to other instructional programs was that learners had more control over the selection of learning materials, regardless of their performance level (Davies et al., 2013). The flexibility in the selection of courses and exercises by learners reflected the underlying philosophy of learner

autonomy existent in TICCIT. This approach aligned with language teaching approaches and methods in the 1970s, which gradually shifted from rote learning towards learner-oriented methods. In this system, while teachers could decide what content to teach, they were not encouraged to diverge from the instructional strategy predetermined by the system, which was based on the rule, example, and practice (REP) model. The later versions of TICCIT in the 1990s became less prescriptive, and teachers could develop and implement their models, even though, they were still encouraged to use REP model as the primary instructional strategy (Levy, 1997).

2.2.2 Microcomputers

The advent of basic versions of microcomputers in 1975, resulted in a new era for CALL (Beatty, 2013). During this period, computers were categorised as mainframe computers (room-sized), mini-computers (similar to contemporary servers) and microcomputers or what we call today personal computers (Beatty, 2013). Earlier versions of microcomputers had limited memory (i.e., 48K) and storage accessibilities, which made them appear less functional in comparison to mainframe computers with powerful data processing capabilities (Davies et al., 2013). Rapid advances in computer technology, however, resulted in the arrival of smaller computers with stronger processors, larger storages, and extended graphic capabilities. Yet, because of mass production, these computers ended up being sold at lower prices, and people began to have them as personal computers. Microcomputers are named differently accordingly to their applications and structural features, such as a workstation, desktop computer, all-in-one, netbook, and laptops (Beatty, 2013).

Advanced graphic capabilities, together with extended storage, enabled programmers, during the 1970s and 1980s, to design and develop more sophisticated language learning software. These programs began to adopt more constructive and communicative approaches

to language pedagogy, comparing to previous behaviouristic drill-based exercises (Beatty, 2013). At this time, one major CALL investigation and application was the use of videodisc technology, which was followed by the invention of Compact Disk Read-Only Memory (CD-ROMs) and Digital Versatile Disc (DVD). These tools helped teachers to transfer and present much language learning information in various formats of the picture, audio and video. Students, likewise, were engaged in more meaningful exercises, compared to previous text-based instruction. This provided them with opportunities to employ problem-solving strategies by having access to extralinguistic clues (Bush & Crotty, 1991).

As mentioned earlier, to a large extent, the advances in computer technology were concurrently happening with changes in approaches to second language learning. By the end of the 1960s, theories of language learning shifted from the conditioning models of behaviourism to cognitivism, and later on to constructivist and communicative approaches in the 1980s (Kumaravadivelu, 2006). Davies et al. (2013) asserted that

> trends such as task-based learning (TBL) and cognitive-constructivist approaches gradually found their match in digital technologies, as it was recognised that computer tools might be one option to facilitate the implementation of a methodology for language learning focusing more on authenticity in contents, contexts and tasks (p. 26).

Cognitive and communicative approaches to language learning encouraged learners to understand and comprehend the new pieces of information, rather than simply forming a set of habits and memorisation of chunks of the target language. CALL practitioners in the 1980s were trying to achieve this kind of meaningful learning by using videodiscs and similar tools to promote deep and contextualised learning among students (Beatty, 2013). *Macario*, for example, was a videodisc program for Spanish language learning, where students were provided with authentic learning materials such as advertisement videos (Beatty, 2013).

While watching the video, students were able to pause and play the video and attend to accompanied annotations, footnotes and questions to check their understanding (Beatty, 2013). Other significant programs of this period included the Athena Language-Learning Project (ALLP), No Recuerdos, Apfeldeutsch, Eliza, CLEF, À la rencontre de Phillippe, TUCO. These programs provided language learners with greater opportunities for interaction and communication through different practices such as language games, reading and writing exercises, and puzzles (Fotos & Browne, 2013).

One major challenge with the microcomputers of the time was the compatibility of their programs with computers produced by other manufacturers (Beatty, 2013). In other words, the operating systems of microcomputers from different manufacturers were different, and they required software compatible with that operating system. Computer users, therefore, could not benefit from all the language learning programs available on the market, and they could only use the ones compatible with their computers' operating system manufacturers (Beatty, 2013). In the 1990s, however, these problems began to disappear after the introduction of mainstream operating systems such as Windows, as well as the arrival of the Internet (Beatty, 2013).

2.2.3 The Internet

The Advent of the commercial Internet, World Wide Web (WWW), and multimedia in the late 1980 and early 1990s, brought about extensive changes to CALL practices. By this time, language teachers and learners could engage in a larger variety of activities, adopting communicative approaches of language learning (Davies et al. 2013). Students could record their voices, share with others, receive feedback, look for new information on the Internet, and do several similar activities. Even though initial websites mainly consisted of texts and limited images in some case, they created interactive environments such as discussion lists

and forums which helped to create opportunities for people from all around the world to engage in communication from a distance (Davies et al., 2013).

During this period, however, the Internet was used largely as a tool for finding resources using earlier versions of search tools (e.g., Gopher, 1991) and browsers (e.g., Mosaic, 1993). By the end of the 1990s, online learning management systems (LMS) such as Blackboard and Moodle (modular object-oriented dynamic learning environment) emerged (Szabo, 2002). These LMSs enabled teachers and students to publish announcements, chat with each other, participate in discussions, and send emails to each other (Watson & Watson, 2007). LMS also features course content, learning modules, assessments, and assignments (Godwin-Jones, 2016). This learning tool gave birth to blended learning, and part of the learning process began to happen in the online environment. Today, many courses are being delivered fully online using LMS platforms such as Edmodo (Thongmak, 2013).

In the early years of the Internet, people had limited access to this new technology, as data retrieved from Internetworldstats *(http://internetworldstats.com)* shows that the number of Internet users in 1995 was 16 million, which accounted for only 0.4 per cent of the world population. This number, however, increased dramatically to 248 million users in 1999, which equals to 4.1 per cent of the world population. This data illustrates the rapid growth of Internet users in the late 1990s, which explains the increased implementation of Web resources in CALL practices. Other statistics retrieved from the WorldBank website (http://data.worldbank.org*)* in 2017 indicate that a large number of Internet users at this period were from developed countries, particularly in the United States. In 1996, for instance, 16.4 % of Americans and 16.7 % of Finish had access to the Internet, while this percentage was 0.01 for Iran (the country of the focus of this study). In the recent years, the accessibility of the Internet and accompanying technology has increased in the majority of the countries around the world, and this makes it feasible to discuss and implement CALL research and

practices in a wider global context (Davies, t al., 2013). Currently in Iran, for example, over half of the population have access to the Internet, which indicates the existence of appropriate technological infrastructures for implementation of technology-integrated teaching and learning programs, including language courses (Hedayati, Reynolds and Bown, 2018).

2.2.4 CALL in 21st Century

During the last two decades, technology, at both hardware (e.g., new smartphones) and software (e.g., virtual reality) level, has developed and expanded at a rapid pace (Chao, 2015). One important aspect of technological advancement is in the area of social media, and particularly communication tools, or technically called social networking, such as *Facebook* (Godwin-Jones, 2016). Today, people can easily and swiftly communicate with others around the world and enjoy synchronous audio or video chats (e.g., via *WhatsApp*) with excitingly low charges, and sometimes for free (Zayed, 2016). They can produce new content and share their thoughts online with broad and diverse audiences (e.g., cloud storages such as *Dropbox*). The applications of social media and networking tools in CALL have been widely studied and reported in recent years (Blattner & Fiori, 2011; Lin, Warschauer & Blake, 2016). The study results of Lin et al. (2016) of 4174 *Livemocha* users, for instance, showed that language learning via social network websites creates considerable opportunities for language learners through interaction with native speakers. They further suggest that these learning environments might not encourage long-term attendance and contribution to learner accuracy.

In more recent years, mobile phones have had an integral role in our everyday lives, which has affected our ways of learning (Godwin-Jones, 2011). These tools are capable of connecting to the Internet, via wireless or network connection, and enable users to look up for new information on often-big touch screens. These kinds of useful features motivated CALL

researchers to study the applications of mobile phones for learning a second/foreign language (Al Fadda & Al Qasim, 2013; Hegelheimer & O'Bryan, 2009; Kukulska-Hulme & Shield, 2007). Godwin-Jones (2011) notes that smartphones are effective tools for promoting individualised and informal language learning. He believes that language learners need to have the autonomy to choose the appropriate App, and educators provide them with assistance and guidance. Considering that mobile phones are becoming the primary and perhaps sole computing devices, CALL experts advise that this trend cannot be ignored by language educators (Godwin-Jones, 2011).

Kimura, Obari and Goda (2011) investigated the applications of mobile technologies in language learning in the Japanese context. They identified several positive and negative aspects of language learning with mobile phones. As noted by Kimura et al., the compact size, fast networks, individualised and easy use are among the strengths of smartphones devices. They indicated that "mobile phones provide high-speed Internet access, a rich mix of data, CD-quality music, and high-quality still and motion pictures. They can transmit video suitable for m-learning as well" (Kimura, Obari & Goda, 2011; p. 39). Despite this, there are limitations perceived for mobile phones, such as small screen size and keypad, as well as a high purchase and maintenance expenses (e.g., broken display) (Kimura, Obari & Goda, 2011).

Any technological advancement brings about new opportunities for the implementation of CALL (Beatty, 2013). This relationship means language teachers have an increasingly wider range of teaching tools and methods available, which encourages them to gain relevant knowledge and skills to be able to choose the best technological tools for the students. Nonetheless, "the overall validity of CALL applications must be viewed as being acceptable by learners with regard to both usefulness and enjoyment" (Stockwell, 2013, p. 213). Overall, contemporary CALL has enormous potential to provide language teachers and

learners with innovative learning experiences, without space and time limitations (Godwin-Jones, 2016). Examples of the recent advanced technologies are virtual reality (VR), Augmented Reality (AR) and Mixed Reality (MR) (Hawkinson, Mehran & Alizadeh, 2017). The information provided above presented a brief history of CALL and introduced the main milestones of the synergy between language teaching/learning and technology. This section is reviewed and concluded by presenting two chronological models of the history of CALL by Warschauer and Healey (1998) and Bax (2003).

Warschauer and Healey (1998) divided the history of CALL into three main stages: behaviouristic CALL, communicative CALL, and integrative CALL. Two main factors that differentiated these stages were the level of the technology and pedagogical approach. Davies et al. (2013, p. 30) summarise these stages as:

- Behaviourist CALL: In this phase, which was conceived in the 1950s and implemented in the 1960s and 1970s, the computer played the role of tutor, serving mainly as a vehicle for delivering instructional materials to the learner. Drill-and-practice programs were a prominent feature of this phase.
- Communicative CALL: In this phase, which became prominent in the 1970s and 1980s, the computer continued to be used as a vehicle for practising language skills, but in a non-drill format and with a greater degree of student choice, control and interaction.
- Integrative CALL: This phase was marked by the introduction of two important innovations: multimedia and the Internet, both of which had become prominent by the mid-1990s.

This categorisation shows the concurrence of changes in approaches to language teaching/learning with technological developments of the time. While the gradual evaluation of CALL is aptly described in the above classification model, Bax (2003) questioned the

suggested dates and proposed three approaches to CALL, rather than stages. Bax's (2003) categorises CALL as restricted, open and integrated CALL. During restricted CALL, the type of task is limited to closed drills and quizzes, students have minimal interaction, and the feedback is provided in a binary form of correct/incorrect (Bax, 2003). The open CALL, however, features more sophisticated tasks, such as simulations, games and computer-mediated communication (Bax, 2003). At this stage, students have more interaction with the computer and occasionally other students. Bax considers that during the restricted and open CALL era, teachers monitored students' performance, and their attitudes toward CALL were accompanied by exaggerated fear and awe. Finally, the integrated CALL features more frequent interaction among students via using tools such as e-mail (Bax, 2003). At this stage, teachers as facilitators are believed to have normalised attitudes toward CALL. Contrary to the previous approaches, in the integrated CALL approach, only a small part of the lesson is carried out using computers (Bax, 2003).

Although these two models were developed years ago, they lend significant insights into the evolution of CALL. Bax (2003) introduced the concept of normalisation, by which he means arriving at a point where technologies in education become invisible and embedded in the teaching and learning process. As noticed by Otto (2017), earlier tools like chalk and boards used in language learning were not called 'assistants', and never had a term such as Chalk-assisted Language Learning. Otto believed that "in the future, our focus will return to our methods and goals, with less prominence given to the technologies that help us realise them" (2017, p.21). Bax and Otto's comments propose useful guidelines for future CALL investigation, with an emphasis on pedagogical aspects of technological tools, rather than generic features.

2.2.5 CALL Theories and Models

One way to shift the focus away from the technology element in CALL is to investigate the underlying theories and concepts in this field of study and focus on the technology-based teaching methods and approaches, rather than the technology itself. Hubbard (2008b) emphasises that there is no particular theory underpinning CALL, and "CALL designers and language teachers are predominantly in the role of consumers as far as theory is concerned" (p.388). He indicates that one probable reason for the lack of "native CALL" theory is that CALL has generally been considered as subordinate to SLA, and thus mainly informed by the principles of its superordinate discipline. Accordingly, it has been continually emphasised that CALL research and practice needs to be informed and guided by theories of second language acquisition (Chapelle, 2009; Garrett, 1991).

The relationship between SLA and CALL, however, is reciprocal, and as Garrett (1991) notes, data from successful CALL lessons could contribute significantly to the development of SLA theories too. Chapelle (2009) states that "CALL designers, users, and researchers need to be able to theorise not only the "normal" process of acquisition but also how to modify this normal process in hopes of helping students to learn faster and better" (p.742). She categorises theoretical approaches to SLA into four main categories, based on their focus: Cognitive Linguistic Approaches, Psycholinguistic Approaches, General Human Learning, and Approaches to Language in Social Context. Examples of implications of these approaches for CALL are subsequently presented.

Cognitive linguistic approaches, for instance, are considered to assist with sequencing grammatical forms in a syllabus for individualised learning. Table 2.1, adapted from Chapelle (2009), illustrates more examples of how SLA theories could contribute to CALL practices:

Table 2. 1 *Implications of SLA approaches for CALL practices*

Focus of Theory	Example of Theoretical approach	Example of Implications for CAL
Cognitive Linguistic Approaches	Universal Grammar	Sequencing grammatical forms in a syllabus for individualised learning
Psycholinguistic Approaches	Input Processing	Suggesting the format for instructional materials to draw learners' attention to target form-meaning mappings
General Human Learning	Skill Acquisition	Providing suggestions for learning through practice and for assessment of successful learning
Approaches to Language in Social Context	Language Socialisation	Provides concepts and terms for analysis of how learners' identities as language users evolve through group participation.

Levy (2013) states that CALL is a multidisciplinary subject that has been influenced by various theories from different disciplines, such as psychology, SLA, language-learning pedagogy, education, and media studies. Thus, this multidisciplinary nature requires CALL designers and practitioners to have a sound understanding of other relevant theories and concepts. In implementing CALL, for instance, one psychological concept to consider is learners' individual learning styles (e.g., visual versus verbal learners). From the CALL research viewpoint, Chapelle (2003) asserts:

> In some studies theory has helped from the beginning to conceptualise what should be investigated and how, whereas in other cases, I have drawn on theory in a post hoc fashion to help explain findings. In either case, theory acts as a resource to make sense of the object of investigation in terms that allow for an understanding of the results that extends beyond the data of a particular study to speak to the issues of relevance beyond the research, and perhaps to the broad field of language teaching (p. 92).

Beatty (2013) perceives language learning as a fluid process where language teachers and learners need to accommodate SLA theories to the individual needs of the learners and context-specific features. He purports that CALL creates more opportunities for this individualisation. Accordingly, overall responsibility rests with the teacher to observe the classroom activities and interpret them based on the relevant theories of SLA, such as comprehensible input and output (Krashen, 1981). Thus, the teacher is the interpreter of the underlying theories and concepts, in the classroom environment, even though some syllabi demand following certain pedagogical directions and techniques to achieve predetermined objectives (Beatty, 2013).

Despite the relative scarcity of CALL-specific theories and approaches, there have been numerous models, frameworks and standards suggested for design, development, implementation, and evaluation of CALL practices (e.g., Chapelle, 2001; Otto & Pusack, 2009). Indeed, Beatty (2013) states that models could explain and clarify the nature of the relationship between CALL and SLA theory, and help to develop theoretically informed practices. He asserted, "a model can be used as a tool to examine processes and describe the ways in which teaching and learning may take place or may be improved upon" (p.143). In one of the earliest attempts, for instance, Farrington (1986) introduced a user-centred model for CALL, consisting of three elements: computer, teacher, and class. This model perceives language teachers and learners' problems as the starting point for CALL material development. In other words, CALL is viewed as a classroom aid, which can be adapted to teachers' own teaching styles, where he/she can play the role of an animator to resolve the classroom problems.

Another example is Otto and Pusack's (2009) triangle model for choosing an appropriate tool for the implementation of CALL, which includes ease of use, flexibility, and power factors. They argue that there needs to be a balance between these three factors, as the

desirable increase of one item, such as flexibility, may result in a decrease in the other factors. In their example, although having a professional group of instructional designers and computer programmers can help to develop a unique CALL tool, the flexibility and ease of use factors may not reach a satisfactory level in long-term. Similarly, a free program downloaded from an online resource, despite having ease of use, may lack flexibility (Otto & Pusack, 2009). While it might be difficult to objectively evaluate CALL tools according to this model, the three factors noted above draw practitioners' attention to essential aspects of CALL materials and tasks.

Other models focus on the selection and evaluation of tasks for the CALL environment. Chapelle (2001, p.52), for instance, suggested the following principles for evaluating CALL tasks:

1. Evaluation of CALL is a situation-specific argument.
2. CALL should be evaluated through two perspectives: judgemental analysis of software and planned task, and empirical analysis of learners' performance.
3. Criteria for CALL task quality should come from theory and research on instructed SLA.
4. Criteria should be applied in view of the purpose of the task.
5. Language learning potential should be the central criterion in evaluation of CALL.

In reviewing the above criteria, it could be concluded that in evaluating CALL practices, close attention should be devoted to the context and the learning objectives. In other words, a useful technological tool in one context might prove inappropriate in another environment, and vice versa. Similarly, the focus of the evaluation is not on the general affordances of a technological tool, but its potentiality for providing language learners with enhanced learning opportunities. These evaluation criteria should guide our responses to simple questions like "So what? Did they learn anything? How do you know?" (Chapelle,

2003, p.119). Therefore, an integral part of CALL implementation is the post-evaluation of the tools to investigate their impact on students' learning rate.

Due to the expanding scope of CALL, Beatty (2013) asserts that it is difficult to create a definitive and comprehensive model of CALL, which could accommodate all aspect of the programme. He suggests that CALL models could build on already developed teaching and learning models, by reassessing the variables and examining their application in CALL environment, (see Beatty 2013 for an extensive discussion on CALL Model) and add the missing variables and aspects to the new CALL model. An absent variable is believed to be the emergence of new roles for teachers in the technology-integrated environment (Comas-Quinn, 2011). Hubbard and Levy (2006) addressed this gap by developing a CALL teacher education framework. This framework, which underpins the present research, categorises teachers' roles in CALL into two major groups: institutional and functional roles. A detailed discussion of this framework is provided in the following sections.

Similar to the above Models, CALL standards have also provided teachers and other stakeholders with guidelines for technology integration. TESOL Technology Standards framework (Healey et al., 2008), for example, provides both teachers and students with relevant criteria for appropriate patterns of technology use, creating opportunities for reflection and creativity. To increase the applications of the standards in various global contexts, this framework also provides vignettes for technology use in low-resource low-access, mid resource mid-access and high resource high access setting. These examples of technology use aptly illustrate how technology could be integrated into class practices in high-tech and low-tech environments. Kessler and Hubbard (2017) claim that TESOL framework offers "range of options and resources for meeting the needs and aspirations of both pre-service and in-service teachers as well as those who seek to become experts or CALL professionals" (p. 281). Accordingly, a big challenge for both pre-service and in-

service teachers could be to gain more knowledge and a greater understanding of the variations in CALL tools and practices.

2.2.6 Variations in CALL Practice

A challenge for every CALL theorist and practitioner is the identification and selection of appropriate technology to be used for facilitating language teaching and learning (Golonka, Bowles, Frank, Richardson & Freynik, 2014). As noticed previously, CALL encompasses a large variety of technology-enhanced language learning activities, which are increasing in number and quality with the advent of new technologies every day (Beatty, 2013). This continuum ranges from the simple use of digital dictionaries (Levy & Steel, 2015) to advanced implementation of blended learning on learning management systems (Chateau & Zumbihl, 2012). Other CALL technologies include blogs, wikis, social networking, social media, interactive whiteboards, mobile learning, gaming, virtual reality (VR) etc. Having a wide variety of CALL applications, it seems helpful to have broad categories for the technological tools according to their pedagogical potentials.

CALL applications can be categorised based on the nature of technologies and their affordances. Technologies are either hardware (according to their physical structure and capabilities, such as personal computers and mobile phones) or software (i.e., a set of programmed instructions to perform a task in a computerised machine, such as Microsoft PowerPoint for presenting slides) (Beatty, 2013). Hardware-wise, technological tools are continuously getting smaller and smarter while being offered at reasonable prices, and as a result, the number of users increases too. For instance, data from Statista (http://*www.statista.com)* show that the number of mobile phone users in 2017 was 4.77 billion worldwide. In a similar vein, today, many language learners have access to digital tools such as mobile phones. This accessibility increases the capability of designing and

implementing authentic and real-life CALL practices tailored to students' individual needs and characteristics (Godwin-Jones, 2011). The ubiquity of technology also has made it feasible to extend the language learning beyond the classroom walls and class hours (Thomas, Reinders & Warschauer, 2013).

Advances in hardware lead to the design and development of a wide range of software too, and inversely, the hardware would be of no use without the utilisation of a compatible software (Beatty, 2013). While the earlier versions of CALL practices involved drill exercise, today, language learners have access to complicated language learning software on their personal digital devices, such as virtual reality (VR). Even though it is not very common to see CALL-specific hardware (i.e., technological tools), a large variety of language learning software/applications are available in the market (Nielson, 2011). There are applications, which are free of charge for users, such as *Duolingo,* while others require the users to buy the licence (e.g., *Babbel*). Moreover, there is a range of computer software, which is produced for generic purposes but is widely used in CALL (Hourigan & Murray, 2006). One typical example of this category is Microsoft Word software, which is a digital platform for composing, editing and printing documents, while in CALL context, Microsoft Word is utilised, for instance, for teaching and practising writing skill (Hawkes, 2009).

The review of the related literature shows that language teachers and learners generally have three options for the choice of technology (Grgurović, Chapelle & Shelley, 2013). First, they could use one of the generic software, such as Microsoft Word for language purposes, such as practising writing. This seems to be the most prevalent strategy among language teachers since it requires less time, effort, and funding (Godwin-Jones, 2017). This type of CALL allows limited changes to the structure and function of the technological tools, and teachers need to seek variety and creativity by focusing on their pedagogical practices. Teachers, for instance, cannot change the structure and content of Microsoft Word, however,

they can design various learning exercises based on the features offered on this platform. In writing, for example, some teachers may use Word for paragraph development, while others may benefit from its spelling correction feature (Grgurović, Chapelle & Shelley, 2013).

Secondly, language teachers and learners could choose CALL-specific, or education-specific, technologies (i.e., software) such as *Rosetta Stone* (Grgurović, Chapelle & Shelley, 2013). In this category, learning pathways and syllabi are normally designed and predetermined by the developers of the software and teachers or students may not have much control over the learning processes (Hubbard, 2006). While this option may be most useful for students, who plan to engage in self-directed language learning teachers also could benefit from certain features to introduce new learning activities, inside or outside the classroom environment (Nielson, 2011). Despite offering advanced and appealing audio-visual features, research shows that self-study CALL products suffer major drawbacks, such as lack of support, guidance and interaction, especially for adult beginner language learners (Nielson, 2011). Levy (1997) distinguishes between perceiving technology as tutor and technology as a tool. As noted by Levy (1997), viewing technology as a tool assigns more responsibility to the teachers, and they play an important role in the successful implementation of CALL.

Another possibility is to design and develop new software, or even hardware, for language learning purposes from A to Z. This strategy provides teachers with more flexibility in the design and delivery of the practices and meeting students' needs (Liaw & English, 2017). CALL literature, however, shows that teachers often tend to use the commercially available tools on the market, rather than designing and developing their own, as the latter demands extensive expertise, time and budget (Beatty, 2013, Godwin-Jones, 2017). In recent years, some websites and software, however, make it possible for teachers with limited programming knowledge to design, create and develop new CALL materials (Godwin-Jones, 2015). On the *Kahoot* website, for instance, teachers could easily create customised online

tests which could be administrated with a group of students using tablets, Chromebook or mobile phones ("What is Kahoot?", 2019). This means, teachers who desire to administer online tests, do not need to create a website on their own, and could benefit from websites such as *Kahoot* (Medina & Hurtado, 2017).

Another factor in using technologies is the Internet access and accordingly, CALL practices are either offline or online. Offline practices, such as using digital dictionaries or word processors, do not normally require access to the Internet, unless for updating the software or accessing further features. Online CALL, however, is run on the Internet platform and is not limited to a certain geographical environment (Hedayati & Foomani, 2015). Most of the recent CALL practices are designed to run on the Internet platform (Godwin-Jones, 2017). Examples of online CALL practices are computer-mediated communication (Lamy, & Hampel, 2007), ePortfolio (Levy, 2013), and the learning management system (Hampel & Stickler, 2015). Online practices can be further divided into synchronous and asynchronous modes (Hedayati & Foomani, 2015), wherein synchronous mode, individuals get involved in real-time interaction, such as online chatting sites. In asynchronous mode (e.g., email exchange), however, interaction is not real-time, and individuals have time to think and prepare before providing their response (Hedayati & Foomani, 2015).

It is equally important to consider the modality of CALL materials (Beatty, 2013). In the earlier stages of CALL, the majority of resources were presented in text mode (Levy, 1997). By the advances in technology, contemporary CALL materials consist of a wide variety of audio and video files, images, games, mobile applications and even kinaesthetic activities in devices like Xbox (Beatty, 2013). This variety provides more opportunities for language learners to engage in real-life and authentic learning experiences. This also helps to implement more individualised learning for learners with different learning styles (Golonka et al., 2014). Table 2.2 summarises the variations of CALL tools and practices:

Table 2. 2 *Variations in CALL tools and practices*

Factor	Category 1	Category 2
Structure	Hardware	Software
Design	Generic tools	CALL-specific tools
Development	Commercially available	By teacher
Internet access	Online	Offline
Time	Asynchronous	Asynchronous
Modality	Text	Multimedia (e.g., audio, video etc.)

The variations mentioned above show that contemporary CALL includes a wide variety of practices, and this provides language teachers with numerous options to integrate new technologies into their teaching practices (Kessler & Hubbard, 2017). Teachers can make choices according to the available technologies and present teaching methods in their immediate teaching environment. Contemporary CALL, however, is dynamic (Beatty, 2013). Beatty believes that "the field of CALL is also constantly changing because of technological innovation that creates opportunities to revisit old findings" (p. 1). The fluid nature of CALL, therefore, demands teachers to not only have current technological literacies but also look forward to updating their knowledge (Beatty, 2013; Kessler & Hubbard, 2017). Despite the availability of a wide range of CALL materials and practices, numerous studies have reported the existence of barriers and limitations to practical and effective implementation of CALL (Hedayati & Marandi, 2014; Thomas et al., 2013). Next section will review these barriers.

2.2.7 Barriers to Call Implementation

The literature of CALL shows that the integration of new technologies into language teaching and learning is not a straightforward process because various factors influence this procedure (Thomas et al., 2013). Thomas et al. state that even though a considerable number of teachers embed technology element in their practices, this technology use is largely limited

to the use of a computer and a data projector for the presentation of slides on a bigger screen. They identified several barriers to CALL integration:

- schools deal with financial constraints
- current curriculum heavily relies on text-book
- schools do not provide sufficient technical and administrative support
- appropriate level of encouragement and educational leadership is not present
- the use of technology is perceived to have accompanying risks

In more complicated cases of CALL implementation, such as virtual worlds (VWs), barriers of a different nature begin to emerge (Kozlova & Priven, 2015). Sadler and Dooley (2013), for instance, reviewed the use of VWs for language learning in their study, and reported existence of a few potential barriers, such as time management for students from different time zones and academic calendars, along with the inaccessibility of VWs in some schools due to strict internet security measures. This evidence highlights that at every stage of CALL implementation, there may exist obstacles, which stakeholders need to identify and overcome; should these obstacles be financial constraints or time management (Chapelle, 2003). In a similar vein, Rice (2007) reviewed papers on computer video games for instructional purposes, and summarised the following six barriers:

- negative perceptions among stakeholders
- graphics quality and other issues surrounding computer graphics
- lack of adequate hardware in schools to run newer gaming software
- lack of instructional time in school periods to adequately engage in rich, cognitive video games
- lack of affordances within artificial environments to adequately represent desired learning objectives

- lack of alignment for objectives within commercial gaming environments to state and local standards (p. 251). s

Rice (2007) concluded that educators generally hold negative viewpoints regarding the effectiveness of video games within the educational system, and this pessimism hinders extended the use of games in school environments. In Hedayati and Marandi's (2014) study, three main barriers to the integration of new technologies were identified: teacher constraints (e.g., lack of CALL preparation), facility constraints (e.g., limited access to technology), and learner constraint (e.g., insufficient digital literacy). Hubbard and Levy (2006) highlight the critical need for CALL teacher training to prepare them for effective implementation of CALL. Otherwise, a new technological tool tends to not create a more effective teacher (Thomas et al., 2013). It has conclusively been shown that teachers' positive attitudes toward technology integration, solely, does not result in the effective implementation of CALL (Godwin-Jones, 2015; Peeraer & Petegram, 2010).

Facility constraints are related to lack of appropriate technological tools, as well as, idiosyncratic systems of individual schools in relation to technical support and technology use policies, such as security (Hubbard & Levy, 2006). Gonzalez and Louis (2013) assert foreign language learners would benefit from authentic communication with native speakers of the target language, and this communication can be achieved via Web tools, although only if the Internet connection is available. They believe, however, even in low-tech contexts it is possible to benefit from affordances of available technologies. They also suggested strategies to overcome technological barriers, such as slow internet connection; for instance, focusing on communication via email.

Concerns and challenges accompanied by CALL implementation are not restricted to the examples mentioned above. Beatty (2013) identified several issues, including copyright,

plagiarism, viruses and online safety. He explains that “in many countries, a fair use provision within copyright law allows for learners to use some materials for in-class projects. However, it does not give learners the right to repost images and text onto the WWW” (Beatty, 2013; p. 177). Accordingly, some teachers, or language schools, anticipate accompanied risks such as plagiarism for the implementation of CALL. Receiving viruses, misinformation, cyberbullying, censorship and pornography are other types of risks involved in using online resources and connecting to the Internet, which could discourage some teachers from entering the CALL environment (Beatty, 2013).

2.2.8. Learner Factor in CALL

It is important to consider the language learner factor or the knowledge held by the learner in the implementation of CALL. This includes factors such as language learners’ personal features, technological literacy level and attitudes towards CALL (Chateau & Zumbihl, 2012; Levy, 2014; Naimie, Siraj, Ahmed Abuzaid & Shagholi; 2010). As alleged by Levy and Stockwell (2006), similar to exercising various learning strategies, students have different preferences towards the use of technology for language learning because of the bewildering variety of new available technological tools in recent years.

Lee, Yeung and Ip, (2017), for instance, investigated the relationship between language learners’ personal factors, such as age and gender, and their computer technology use. In consideration of student’s age, the results indicated that older students demonstrated more desire for self-directed learning by CALL, although they reported experiencing higher levels of anxiety compared to the younger students. They also suggested that promoting students’ desire for learning could enhance their technology use for language learning too (Lee, Yeung & Ip, 2017).

Lamy and Hampel (2007), as shown in Table 2.3, reported research findings in relation to learners' experiences in language learning in computer-mediated communication (CMC) environment.

Table 2. 3 *Learner experiences in CMC (retrieved from Lamy & Hampel, 2007; p.77)*

Positive aspects
1 Equality of participation (written conferencing).
2 More turns (synchronous written environments vs. face-to-face classrooms).
3 Learner empowerment and autonomy; control of discourse by learners.
4 Time to reflect (asynchronous fora).
5 Less anxiety thanks to anonymity (written conferencing).
6 Greater opportunities for collaboration.
7 Authentic exchanges.
8 Creativity.
Negative aspects
1 Inequality of participation (written conferencing).
2 Lengthy monologues, flaming.
3 Limitation of learner empowerment and autonomy through greater control by tutor/institution.
4 Pressure to respond (e.g., prescribed number of contributions in asynchronous fora).
5 Increased performance anxiety (i.e., when speaking in synchronous audio environments).
6 Solitariness of collaborating at a distance.
7 Lack of paralinguistic cues and contextual deprivation can lead to misunderstandings, especially in written conferencing.
8 Information overload and techno-stress (multimodal conferencing).

From the information in Table 2.3 (Lamy & Hampel, 2007), it may be inferred that language learning experience through CMC could be both facilitative and inhibitory for the learners. For instance, while anonymity could reduce language learners' anxiety, speaking in synchronous audio environments could, in contrast, heighten one's anxiety. Hedayati and Foomani (2015), likewise, investigated language learners' performance in synchronous CMC according to their learning styles. The results showed that visual learners outperformed verbal learners in terms of the lexicon (i.e., lexical density and diversity) and syntax (i.e., Syntactic complexity and accuracy). In the same study, reflective learners outperformed active learners by producing longer sentences and greater mean percentage of error-free c-units. These

results strongly indicate that language learners' learning styles are a determining factor in their performance in the online environment.

It is argued that intrinsic motivation for language learners to participate in online learning environment might be less than a face-to-face classroom, as they could easily stay in the background and suffice to observe others' performance (Lamy & Hampel, 2007). In asynchronous communications, in particular, time gaps between student response and teacher feedback could reduce learners' motivation for participation and interaction (Lamy & Hampel, 2007). It is suggested that students with varying proficiency level demonstrate different degrees of motivation for engaging in communication with native speakers of the target language via video-web communication (Jauregi, Graaff, Bergh & Kriz, 2012).

Warschauer (2003) identified four different types of digital literacy as essential literacies for language learners in CALL: computer literacy, information literacy, multimedia literacy and computer-mediated communication literacy. In relation to the first aspect, while Warschauer did not perceive fluency with hardware, software, and operating systems as the ultimate goal, he considers these qualities essential for achieving broader language learning goals. Nowadays, however, this may not be a major challenge, as the new generation of the students, who are referred to as digital natives (Prensky, 2001), have regular interactions with computers and other digital devices from an earlier age. By refereeing to them as digital immigrants, Prensky (2001) believes that older generations also find it indispensable to learn new digital literacies to cope with the technologies that have surrounded them.

Information literacy concerns having relevant knowledge and skills to navigate through the ever-expanding information in today's world. As Lamy & Hampel (2007) highlighted, information overload could negatively impact language learners' performance., Warschauer (2003), therefore, suggest that for successful identification, evaluation and use of information, the following skills are necessary:

- Develop good research questions
- Determine the most likely places to seek relevant information
- Select the most appropriate search tool
- Formulate appropriate search queries
- Rapidly evaluate the result of a search query, including the reliability, authorship, and currency of a source
- Save and archive located information
- Cite or refer to located information (Warschauer, 2003; p. 113)

Information literacies not only demand to have relevant technological knowledge and skills (e.g., web browsing) but also includes critical analysis and evaluation skills for interpreting the validity and value of the presented information (Warschauer, 2003). The current version of search tools, such as Google, provide users with various options to specify, limit and filter their search results to save time and locate the valid resources. While everyone may know how to search on Google, these small techniques may not be known to all.

In the past, a vast amount of new information was produced and circulated in text format. Therefore, literacy was defined as the ability to read and write (Warschauer, 2003). By the advent of multimedia, as Warschauer highlights, there is the need for developing multimedia literacies to produce and consume information in the form of text, graphic, audio and video (Lotherington, & Jenson, 2011). Multimedia literacy level depends on students' computer and information literacies as for creating a PowerPoint, for instance, students need skills for "navigating a range of Web sites, critically evaluating and selecting information, deciphering complex vocabulary and syntax, and deciding how to paraphrase and present key information" (Ware, 2008; p.43).

Furthermore, Warschauer (2003) highlights the need for developing Computer-Mediated Communication (CMC) Literacy. He described it as writing and comprehension

skills required for effective communication through online media, which are categorised into three levels. At the basic level students need to be aware of the netiquette of appropriate online communication; at an upper level, students need to be pragmatically competent users of different media tools; and the highest level includes establishing and planning CMCs for achieving group goals (Warschauer, 2003). This model demonstrates how online communication via CMC could be a challenging task which necessitates acquiring certain literacies to engage in meaningful negotiation of meaning with others. It has been argued that "with the proliferation of "social media", or digital media employed for content production and connection among individuals, electronically-mediated communication (EMC) is finding increasing use and recognition in teaching English as a foreign language (TEFL)" (Averianova, 2012; p. 15).

Four types of literacies proposed by Warschauer (2003) properly explains the essential literacies that language learners need to acquire prior to engaging in CALL practices. Similarly, TESOL technology standards framework (Healey, Hegelheimer, Hubbard, Ioannou-Georgiou, Kessler, & Ware, 2008) provides a more in-detail set of technology standards for language learners. These standards are presented under three main goals:

- Language learners demonstrate foundational knowledge and skills in technology for a multilingual world. For example, language learners demonstrate basic operational skills in using various technology tools and internet browsers.
- Language learners use technology in socially and culturally appropriate, legal, and ethical ways. For example, language learners understand that communication conventions differ across cultures, communities, and contexts.
- Language learners effectively use and critically evaluate technology-based tools as aids in the development of their language learning competence as part of formal

> instruction and for further learning. For example, language learners appropriately use and evaluate available technology-based tools for communication and collaboration.
>
> (Healey et al. 2008; p. 20-25)

In addition to the knowledge and skills that language learners need to acquire for the integration of technology, another thread of research has focused on learner training in CALL. Romeo and Hubbard (2011) argue that even students with high skills in using digital technology may find it difficult to exploit the resources available to them for language learning, which means students need to undertake training that addresses this gap. With a focus on listening skills, Romeo and Hubbard have extensively worked on learner training courses, and they proposed a framework containing the following domains:

- Technical training: how to use the options and controls of both general and specific applications on the computer for language learning purposes. An example is how to control subtitles in various applications.
- Strategic training: what to do to support certain learning objectives, including how to link sequences of strategies (or techniques) into learning procedures.
- Pedagogical training: determining specific learning objectives and understanding why to use certain techniques and procedures to achieve those objectives. This is parallel to the preceding principle "Give learners teacher training." For example, students are not only introduced to "pre-listening" as a strategy, but they are also told about how research in schema activation and top-down processing support this strategy, and why appropriate pre-listening activities can improve both comprehension and retention of new material.

(Romeo and Hubbard, 2011; p. 217)

The above principles indicate the need for providing students with in-depth training that enables them to critically analyse and compare the available resources and implement the

best learning strategies, respectively. This training becomes even more crucial when some argue that in technology-enhanced language learning, students now have more responsibilities, compared to teacher-led face-to-face classes (Lee, Yeung & Ip, 2017; Tammelin, Peltonen & Puranen, 2011). Raby (2006), referring to a vignette from her class, explains that in CALL environments students do not necessarily follow the strategies planned by the teachers, because they tend to discover new possibilities that closely match their learning habits. Accordingly, Bax (2003) highlights the need for teachers to empower language learners to critically look for language learning potentialities of the technological tools, rather than narrowing their learning to a specific aspect of technology. This leads our discussion to the next important factor in CALL, teacher factor.

2.3 Teacher Factor in CALL

Having reviewed the various contributing factors to the successful implementation of CALL, as well as the existing barriers, in the previous sections, this part will review the teacher element in language teaching in general and CALL environment in particular. By drawing on the theoretical discussions and empirical research, this part will provide a comprehensive background to compare and discuss the findings of the current study, which aimed at investigating the Iranian language teachers' roles in a CALL environment.

2.3.1 The Teacher's Role in the Teaching and Learning Process

The role of the teacher in the teaching and learning processes and its effect on learners' achievement have been a widely-discussed topic in the field of education (Darling-Hammond, 2005; Houston, 2009; Musgrove, & Taylor, 2012; Rubie-Davies, Hattie & Hamilton, 2006). It has been challenging, however, to find a definite answer to the roles that should be undertaken by teachers in and outside the classroom (Grover, 2015;

Kumaravadivelu, 2003). A lack of consensus about the definition of the teacher's role adds to the ambiguity of designing teacher education programs, which aim at preparing competent teachers for the delivery of educational goals (Grover, 2015). In the educational context, the term role refers to the teachers' and students' responsibilities in the process of teaching and learning (Valli & Buese, 2007). According to different methodologies, teachers and students have varying responsibilities. In a student-centred approach, for example, students have more responsibly and authority (Kumaravadivelu, 2003).

Guichon and Hauck (2011) view teachers as the centre of all the activities in the classroom and emphasise their important role by calling them the lynchpin around which teaching and learning processes revolve. In a similar metaphor, Kumaravadivelu (2003) regards theorists as play writers and teachers as actors on the stage. Theorists or curriculum developers design and construct knowledge behind the scene, whereas, teachers understand and transfer that knowledge on the stage. Taking this into account, if the actor cannot act successfully on the stage in front of the audience, then the behind the scene plans will be worthless. By the continuous introduction of new educational policies by the governments (federal, state, and local), teachers' job becomes more and more significant in delivering those policies and standards, which ultimately aims at improving students' learning (Valli & Buese, 2007).

2.3.2 Research on the Teacher's Role

Teachers' roles and associated requirements have been an area of interest for many researchers in the field of education for many years. The earliest research studies related to education in the 1920s and 1930s discussed and investigated the role of the teacher and the scope of his/her responsibilities (Krystev, 1928; Porter, 1930; Strang, 1936; Watson, 1939). These studies began by investigating the teachers' stance in society and their responsibilities

as a member of the community in transferring knowledge from one generation to the other. Houston (2009) points out that "the responsibilities and background of teachers change with the needs of society. Teachers in Greece and Rome differed from those of the Middle Ages in their backgrounds, motivation to teach, processes of instructing students, and organisational unit in which education transpired (p. 18)".

After the 1950s, research on teachers' roles and characteristics focused on their effectiveness inside the classroom environment (Biddle, 1964; Biddle & Ellena, 1964; Mitzel, 1960). These studies investigated the relationship between teachers' characteristics, pedagogical practices, and their effect on educational outcomes and students' achievement (Flanders & Simon, 1969). This approach was in contrast with approaches in the earlier years, which suggested that there is not a specific mechanism to observe and measure teachers' roles and practices and investigate their relationship with students' achievement. There was also a shift from a subjective evaluation of teachers' performance towards a more objective analysis of teacher-student interaction (Flanders & Simon, 1969).

By the end of the 20th century, research on teachers' roles began to study their roles not only inside the classroom environment but also in the community and society in which they were acting their roles (Giroux, 1985; Kumaravadivelu, 2003). Through the educational reforms in this era, teachers were expected to prepare learners to become active and critical members of society, and these expectations extend teachers' role beyond the boundaries of the classroom (Giroux, 2010). These approaches toward teachers required them to be reflective about their practices and orientations in the teaching process. In this way, every teacher is expected to go through the three stages of observation, analysis, and evaluation of their actions in the teaching process (Giroux, 2010). As a result, teachers take more responsibilities, and as Schon (1983) asserts, teachers, not professional experts, are responsible for the challenges they face in their everyday experiences of teaching.

Likewise, Kumaravadivelu (2003) suggests three strands of thinking regarding teachers' roles and responsibilities: "(a) Teachers as passive technicians, (b) teachers as reflective practitioners, and (c) teachers as transformative intellectuals" (p. 8). According to Kumaravadivelu, teachers as passive technicians are expected to cover a battery of content knowledge and transfer this knowledge to a subsequent generation of learners. Within this approach, he adds, professional experts are those who decide upon teaching/learning materials and processes, and teachers are expected to follow these procedures without making major changes. This means what teachers do is to understand and implement the knowledge that theorists have conceived and constructed (Kumaravadivelu, 2003). Perceiving teachers as technicians is similar to Wallace's (1991) craft model. In the craft model, teachers were viewed as young trainees who learn new skills and practices by imitation and adoption of the experts' techniques, instructions and advice. This model had a static approach toward teaching and neglected its dynamic nature (Wallace, 1991). This outlook certainly minimised teachers' influence on classroom practices, and teachers were restricted to the content received from experts rather than their own lived experiences (Kumaravadivelu, 2003). In the following years, reflective teaching evolved in reaction to these fixed assumptions about teaching.

Reflective teaching, which can be traced back to the early works of John Dewey in the early 20th century, conceives teachers as problem-solvers who go beyond the routine and fixed actions toward a more analytical and evaluative approach (Kumaravadivelu, 2003). According to Dewey (1933), reflective teachers analyse and evaluate their teaching and look ahead when planning. The concept of teachers as reflective practitioners attained growing recognition among language teaching researchers in the 1990s and continues to the present day (Farrell, 2011; Richards & Lockhart, 1994). In reflective teaching, "teachers and student teachers collect data about teaching, examine their attitudes, beliefs, assumptions, and

teaching practices, and use the information obtained as a basis for critical reflection about teaching" (Richards & Lockhart, 1994, p. 1).

Wallace (1991) notes that teachers should reflect on not only their weaknesses but also their achievements in any part of their teaching experience because this type of thinking can help them to decide which practices to avoid or repeat in the future. Farrell (2011) asserts that teachers are involved in the process of construction and reconstruction of their self-image, which is manifested through their experiences and practices over their career. Reflective approach emphasises the dynamic nature of the profession and empowers teachers' roles in the classroom as agents who can decide and challenge their actions and practices (Kumaravadivelu, 2003).

The third approach, which views teachers as transformative intellectuals is developed and supported by critical pedagogists in general education (Giroux, 1988; McLaren, 1995; Simon, 1987) and language teaching (Benesch, 2001; Pennycook, 1997). Kumaravadivelu (2003) argues that "as transformative intellectuals, teachers are engaged in a dual task: they strive not only for educational advancement but also for personal transformation" (p. 14). For educational development, teachers try to create communities of educators for developing forms of knowledge, curricula, and syllabi, which are aware of their particular context and the teachers' and students' needs and wants (Kumaravadivelu, 2003). To attain personal transformation, teachers consider the issues of inequality and injustice in the wider context of society and try to educate themselves, as well as students, with these issues. Kumaravadivelu suggests that this dual direction requires teachers to have two purposes: first, to try to maximise the learning opportunities in the narrower context of the classroom, and second, to perceive pedagogy as a means to transform lives inside and outside the classroom context.

Giroux (2010) purports that "viewing teachers as intellectuals provides a strong theoretical critique of technocratic and instrumental ideologies underlying an educational

theory that separates the conceptualization, planning and design of curricula from the process of implementation and execution" (p. 38). He stresses the importance of teachers' roles regarding decision-making and evaluation of what and how they should teach, and what their major goals of teaching are. Teachers with this approach may not view themselves as agents who are responsible for delivery of a set of fixed knowledge to learners, but they get involved in the teaching process from the planning stage to implementation (Giroux, 2010). Furthermore, teachers may not be confined to what they have been trained to do, but they analyse and evaluate every moment of their teaching experience in the classroom and transfer these experiences from one context to another (Giroux, 2010).

2.3.3 Teacher's Roles in the 21st Century

Owen (2015) argues that teachers in the 21st century need to gain new skills such as information and communication technology literacy, innovation and creativity, and problem-solving to be able to help learners to achieve the desired educational goals. She states that teachers' roles may not be limited to the transmission of information, and they should try to facilitate learning by implementing different skills like being co-learners and negotiators to establish and maintain a close relationship with students. Related to this approach, Professional Learning Communities (PLCs) programs were introduced and implemented for teacher professional development to improve student learning (Meiers & Buckley, 2009). In PLCs, teachers are encouraged to alter their status quo beliefs and practices and move towards a professional development with involvement in collaborative and sometimes interdisciplinary activities (Meiers & Buckley, 2009; Owen, 2015; Yang, 2009).

Darling-Hammond (2006) states that teachers in the 21st century should know a wide range of skills to be able to teach effectively, which includes:

> understanding many things about how people learn and how to teach effectively, including aspects of pedagogical content knowledge that incorporate language, culture, and community contexts for learning. Teachers also need to understand the person, the spirit, of every child and find a way to nurture that spirit. And they need the skills to construct and manage classroom activities efficiently, communicate well, use technology, and reflect on their practice to learn from and improve it continually (p. 300).

Nowadays, the teacher's role goes beyond the boundaries of the classroom, school and educational system, and it is recognised that high-quality teachers could indeed impact economic and political status (Darling-Hammond, 2005). This approach focuses on investigating teachers' roles and the consequences of their practices outside the classroom environment in the wider context of society (Darling-Hammond, 2005). It appears that fulfilling an integral role in the context of society cannot be achieved unless teachers handle their roles effectively inside the classroom environment (Musgrove & Taylor, 2012).

In recent years, one of the tools that can help teachers to effectively teach a wide array of learners is technology and the opportunities created by the integration of technology with educational systems in varying contexts (Lawless & Pellegrino, 2007). Given this, it appears essential to study and investigate the effect of technology on teachers' practices and experiences in different contexts. As Darling-Hammond (2006) points out, developing skills for using technology effectively in teaching is one of the qualities that teachers in the 21st century need to acquire and implement. It is purported that teachers in technology-integrated educational contexts have different needs and concerns from their traditionally-oriented colleagues, and it is important for them to redefine their roles as teachers to meet their own expectations, as well as the students' and administrators' expectations (Comas-Quinn, 2011).

2.3.4 Technology-Integrated Instruction and the Teacher's Role

As mentioned earlier in this chapter, one of the first attempts to use technology in education was the inception of the program called PLATO (Programmed Logic for Automatic Teaching Operations) in the 1960s. Alpert and Bitzer (1970), developers of PLATO, were mainly concerned with educational productivity by exploring the possibilities of computer use in education for slashing the escalating costs. After decades, several studies (e.g., Lamy & Hampel, 2007) have approved the applicability and advantages of computer use in education. One of the widely discussed topics in recent years is the teacher's role in the successful implementation of technology, and consequently, how teachers should be trained and prepared to use technology effectively (Arnold & Ducate, 2015).

Zhao and Cziko (2001) point out the existence of an ironic contradiction in the process of integrating technology into education. They argue that although the benefits of technology in education have been reported widely, most of the teachers do not use it frequently in their teaching practices. Research on teachers' use of technology report different reasons for teachers not using technology to support teaching and learning, including absence of appropriate training, traditional pedagogical attitudes, teachers' personal attitudes toward technology, resistance to change, time management issues, low technical and administrative support, and a lack of digital literacy (Hedayati & Marandi, 2014; Mumtaz, 2000; Thomas et al., 2013). Mumtaz (2000) suggests that successful implementation of technology largely depends on how teachers perceive and implement the technology. Teachers who choose to use technology should prepare themselves to play different roles from teachers who are implementing traditional methods (Hubbard & Levy, 2006).

The International Society for Technology in Education (ISTE) (https://www.iste.org) has set out helpful guidelines for the use of technology in education for different stakeholders involved in this process (i.e., teachers, students, administrators, coaches, and computer

science educators). ISTE proposes 14 conditions which are necessary for effective use of technology in education, and one of those conditions is the presence of trained educators who are skilled at the selection and effective use of information and communication technology (ICT) resources. ISTE emphasises that successful implementation of technology in education requires technological competence of both teachers and students, as well as administrators, and a mismatch between these groups may result in the unsuccessful use of technology.

Kazeroni (2006) conducted a study in which teachers were asked to participate in training sessions on the use of technology in their teaching practices. He reported that the majority of teachers were motivated to participate in these sessions to improve and develop their teaching by using different sorts of current technology. Kazeroni also reported that there were teachers whose motivation to attend these sessions was to discover if they would be replaced by machines (i.e., technology) in the future. These findings indicate that teachers are becoming aware of the importance of technology in their profession, and they are willing to acquire the necessary skills and literacies to sustain their effective role in the process of teaching.

Zhao and Cziko (2001) used the Perceptual Control Theory (PCT) to investigate teacher adoption of technology from an inner (psychological) perspective, which is based on their goals. They report that we should consider teachers as goal-oriented agents and expect teachers to implement technology if the following conditions are met:

- The teacher must believe that technology can more effectively achieve or maintain a higher-level goal than what has been used.
- The teacher must believe that using technology will not cause disturbances to other higher-level goals that the he or she thinks are more important than the one being maintained.

- The teacher must believe that he or she has or will have the ability and resources to use technology (p. 27).

Bancheri (2006) argues that in the technological era the teacher's role is not limited to transfer of knowledge, but they are expected to support the students with the tools to acquire knowledge and help them to develop the ability to evaluate educational values of technological tools. He points out that teachers who are not comfortable with new technologies and are not able to evaluate them will not have the competence to handle their new roles in technology-integrated contexts. It appears there exists a similar situation in the area of second language teaching area and L2 teachers experience the same challenges with the use of technology (Arnold & Ducate, 2015; Hubbard & Levy, 2006).

2.4. The Teacher's role in second/foreign language learning

Before reviewing teachers' roles in the CALL environment, it seems necessary to understand their overall roles in second/foreign language learning. A language teacher's role could be perceived as "an artist and an architect; a scientist and a psychologist; a manager and a mentor; a controller and a counsellor; a sage on the stage; a guide on the side; and more" (Kumaravadivelu, 2003, p. 7). Each of these metaphors assumes a certain set of responsibilities for the teachers that could ultimately contribute to students' learning. A relevant question here is 'what makes a good language teacher?' (Mullock, 2003). There is a large body of literature that has attempted to find valid answers to this questions, each focusing on a certain aspect of the profession, including language teaching practices (Harmer & Education, 1998) language teacher's development (Mann, 2005), sociocultural

perspectives (Johnson, 2006), teaching methodologies (Kumaravadivelu, 2006), pedagogical knowledge (Mullock, 2006), and teacher identity (Farrell, 2011).

Expected roles of the language teachers have largely been affected by the dominant language teaching methodologies of the time (Kumaravadivelu, 2003). Grammar Translation method, for instance, required teachers to be knowledgeable of both first and second languages (for the translation purposes), whereas with the Audiolingual method, teachers needed to be highly proficient speakers of the target language to present the correct form of the language, and avoiding any use of students' first language (Kumaravadivelu, 2003). Since 1970, there has been a major shift in language teaching approaches with a focus on communicative aspects of the language, such as fluency and negotiation of meaning (Farrell & Jacobs, 2010). Along with this paradigm shift, new expectations for language teachers were generated. Communicative language teaching approaches require teachers to become facilitators and create optimum language learning conditions for the students. To achieve this environment, Farrell and Jacobs (2010) recommend the following practices, referred to as language teaching essentials, for the language teachers:

- encourage Learner Autonomy,
- emphasise the Social Nature of Learning,
- develop Curricular Integration,
- focus on Meaning,
- celebrate Diversity,
- expand Thinking Skills,
- utilise Alternative Assessment methods,
- and promote English language Teachers as Co-learners (p.2).

A key element of the above essentials is the transition from teacher-centred instruction to student-centred instruction. It appears that while teachers' roles are less focused on the communication of the content knowledge, they have increased responsibilities to train autonomous language learners by working on metalinguistic strategies (Jessner, 1999). This is, however, not the case in all language learning contexts. Harmer and Education (1998) comment that student-centred instruction may not be the ideal methodology for teaching students who believe that teachers are responsible for their learning.

Another key aspect of the eight teaching essentials proposed by Farrell and Jacobs (2010) is considering language teachers as co-learners. This approach assumes various roles for the language teachers, such as:

- Teachers as searchers for knowledge
- Teachers as models of effective learners
- Teachers as guides
- Teachers as researchers, materials developers, and decision makers
- Teachers have to go off the beaten path
- Teachers as engaged intellectuals.

(Farrell & Jacobs, 2010; p. 119)

The aspects stated above clearly illustrate how teachers' responsibilities could be massive and include various dimensions, from being a learner and acting as a model to engaging in non-English matters (e.g., environmental issues) to extend learning beyond the classroom environment (for detailed descriptions, see Farrell & Jacobs, 2010). While language teaching methods and approaches assume certain roles and responsibilities for teachers, research shows that teachers do not necessarily subscribe to a particular approach, because they tend to adopt an eclectic approach by choosing the best practices relying on their intuition and experience (Farrell & Jacobs, 2010; Kumaravadivelu, 2003). Richards and

Renandya (2002) draw some interesting comparisons between teachers as professionals and as amateurs/technicians/academics. They define professionalism as "preparing oneself to do a competent job through learning" which "may take the form of pre-service or in-service courses, reflection on experience, reading, observation, discussion with colleagues, writing, [and] research" (Richards & Renandya, 2002; p. 389).

As mentioned earlier in this chapter, 21st century teachers, irrespective of the subject area, need to acquire ICT skills as an additional body of knowledge (Owen, 2015). Since the advent of primitive computers, several studies have recognised the significance of technology use in language teaching/learning environment (Alpert & Bitzer, 1970). With the introduction of new technologies on an almost daily basis, the idea of computer-assisted language learning is consistently being researched, analysed, and criticised (Chapelle & Sauro, 2017; Donaldson & Haggstrom, 2006). One key factor is the teachers' roles in CALL and how they can acquire the necessary competencies to effectively integrate technology into their practice (Arnold & Ducate, 2015; Hubbard & Levy, 2006).

2.4.1 CALL Teachers

Language teachers have always used technologies in their practices, but the ongoing arrival of new educational technologies demands comprehensive plans for the implementation of CALL (Healey et al., 2008). Moreover, it is believed that technology is becoming an invisible and normalised part of teachers' practices (Kessler & Hubbard, 2017). As Chapelle (2006) notes, it is a challenging task for most academics and professors in the field of applied linguistics to design and develop comprehensive language-teacher education curricula and related course content and materials. She asserts that teacher education in computer-assisted language learning (CALL) shares common areas with other parts of second-language teacher education, but it is emphasised that teachers in CALL should gain

the related literacies and skills to be able to choose, use, and sometimes ignore technology for their learners (Chapelle, 2006). Scrivener (2005) considers that at any point in the teaching process, teachers have a range of available options to solve problems in the classroom. This may involve changing the activities or keeping the status quo.

It is believed that CALL can benefit from other standards in other education areas for technology use (e.g., ISTE standards), but the uniqueness of language learning requires prudence about relying too much on generic educational standards and guidelines (Hubbard and Levy, 2006). Even though in contemporary times many language teachers use various technologies in their everyday lives, Kessler and Hubbard (2017) argue that teachers could not take advantage of these practices for language learning, unless they receive the relevant training. It seems that technology use for routine social activities, such as communication with friends, does not equip the teacher with the necessary skills to integrate the same technologies into their pedagogical practices. Teachers could gain this training through informal (e.g., individual experimentation) and formal (e.g., CALL workshop) learning pathways, and be prepared for the upcoming changes, interactive materials, and a social future (Kessler & Hubbard, 2017).

Several studies have attempted to identify the knowledge and skills that CALL teachers need to acquire and develop (Compton, 2009; Hong, 2010; Hubbard & Levy, 2006; Kessler, 2012, Kozlova & Priven, 2015; Krajka, 2012; Safari & Rashida, 2015). In TESOL technology standards framework (Healey et al., 2008), for instance, four major goals and 14 standards are identified for language teachers. Below, the four goals and one standard from each goal are presented (for the complete list of the standardbreds and performance indicators see Healey et al., 2008; p. 29-41):

- *Goal 1. Language teachers acquire and maintain foundational knowledge and skills in technology for professional purposes.* Standard 1: language teachers demonstrate knowledge and skills in basic technological concepts and operational competence, meeting or exceeding TESOL technology standards for students in whatever situation they teach.
- *Goal 2. Language teachers integrate pedagogical knowledge and skills with technology to enhance language teaching and learning.* Standard 1: language teachers identify and evaluate technological resources and environments for suitability to their teaching context.
- *Goal 3. Language teachers apply technology in record-keeping, feedback, and assessment.* Standard 1: language teachers evaluate and implement relevant technology to aid in effective learner assessment.
- *Goal 4. language teachers use technology to improve communication, collaboration, and efficiency*. Standard 1: language teachers use communication technologies to maintain effective contact and collaboration with peers, students, administration, and other stakeholders.

(Healey et al., 2008; p. 29-38)

Another thread of research has focused on teachers attitudes toward CALL (Davis, 2009; Kessler, 2007: Li, 2014). Teachers in general, and language teachers, in particular, are eager to have better conditions in which they can develop their skills and literacies in educational technology integration (Kessler, 2006). Hubbard and Levy (2006) state that the increase in the availability of the Internet and computers in schools and home settings has resulted in extended use of technology in second or foreign language teaching and learning, and consequently teachers feel incompetent and ineffectual if they are not reasonably familiar with CALL. In addition, second language teachers are becoming more aware that the use of technology supports them with ample opportunities to design various syllabi and tasks

regarding different component of language (Golonka, Bowles, Frank, Richardson & Freynik, 2014).

Considering the rapid development of technology and respectively, its integration with language learning, the teacher's role becomes more significant in managing the classroom where technology is an inseparable part (Arnold & Ducate, 2015). Chapelle (2003) notes that "in the 21st century, English language teachers apparently need to add another thick layer to the object of their critical reflection – technology" (p. 9). Many students are using technological tools in their everyday lives, and it is their reasonable expectations to have technology in their language learning experience (Chik, 2011). Beaven et al. (2010) point out that "language teachers need to acquire and constantly update their ICT skills, while also ensuring that the online teaching activities they use are fully integrated into their own individual pedagogical framework and are thus beneficial both for their students and for themselves" (p 16).

The successful implementation of technology in second language instruction requires trained teachers to be prepared to act effectively in CALL (Kessler & Hubbard, 2017). Hubbard and Levy (2006) argue that this preparation may include: "reading a chapter within a comprehensive methodology textbook, or participating in a one-time, in-service workshop, through dedicated courses and seminars, CALL course series, CALL certificates, and even CALL graduate degrees" (p. 3). They argue that irrespective of studies related to CALL methodology, materials and techniques, there is a sheer necessity to study the nature of knowledge and skills that CALL teachers need to have and develop. One problem in developing a comprehensive CALL teacher education is that there is not a definitive agreement on what constitutes CALL, and how much technological use in language teaching is optimal or acceptable (Hubbard and Levy, 2006).

Levy (1997) notes that the context of CALL is dynamic due to the rapid development of new technologies. Therefore, he adds, if a teacher education program is circumscribed exclusively to the use of certain technologies, by the arrival of newer technologies those programs may be no longer useful and effective (Chao, 2015). The dynamic nature of CALL requires this field not be led by the latest technologies, but it is expected to be wary of what is going on in the world of technology and make the best use of those technologies in the pedagogy of second language learning (Levy, 1997).

Research shows that teachers face various challenges in integrating new technologies into their practices; this includes time and cost barriers (Thomas, Reinders & Warschauer, 2013), absence of learner discipline and cultural differences in the online learning environment (Blake, 2008), relocation to computer sites (Corder & U-Mackey, 2011), institutional, social and professional limitations (Beaven, et al, 2010), and technical constraints, such as absence of body language in synchronous audio communication (Hampel, 2009). The most important barrier among all might be teacher resistance, which could be the result of personal factors, such as anxiety (Thomas, Reinders & Warschauer, 2013). Finally, some teachers perceive computers as threats that could replace them (Blake, 2008).

Overall, CALL research, regarding the teachers position in the procedure of teaching and learning has been mainly focused on: a) investigating obstacles that teachers face during implementation of technological tools in pedagogy (Chambers & Bax, 2006), b) teachers' attitudes and beliefs towards using CALL (Davis, 2009; Kessler, 2007: Li, 2014) and c) teacher education for training teachers capable of using technology (Arnold and Ducate, 2015; Borthwick & Gallagher-Brett, 2014; Cunningham & Redmond, 2002; Hubbard, 2008a; Luke & Briton, 2007).

Levy (1997) asserts the nature of CALL studies is interdisciplinary and it has language and pedagogy in its kernel which is influenced by other fields and disciplines like "psychology, artificial intelligence, computational linguistics, instructional technology and design, and human-computer interaction studies" (p. 47). Social psychology is one of the fields that can help to understand the roles performed by the individuals involved in the CALL (Hubbard & Levy, 2006). The following section will describe Hubbard and Levy' (2006) CALL teacher framework, together with Biddle's (1986) role theory, that constitutes the theoretical framework of the current study.

2.4.1.1 CALL Teacher Framework and Role Theory

Hubbard and Levy (2006) state that the increase in the availability of the Internet and computers in schools and home settings has resulted in more use of technology in second or foreign language teaching and learning, and consequently teachers feel incompetent and ineffectual if they are not reasonably familiar with CALL. Hubbard and Levy (2006) proposed a framework for teachers' and educators' roles in computer-assisted language learning, which is based on the role theory (Biddle, 1986). Therefore, before discussing the framework, the role theory is explained here first. Biddle (1986) defines Role Theory as "a science concerned with study of behaviours that are characteristics of persons within contexts and with various processes that presumably produce, explain, or are affected by those behaviours" (p. 4). In Biddle's definition, the individuals' behaviours are studied in relation to the context, and this emphasises the impact of contextual factors on how individuals define their roles and behave. According to Biddle, in a reciprocal relationship, individuals produce certain behaviours and the result of those behaviours affects them equally. Early conceptions of the role concept defined roles as being prescriptive, normative and fixed and stable across individuals and time, and it was reasoned that assigned roles directed individuals' practices (Parsons, 1951). In more

recent times, however, roles are defined and interpreted by individuals according to contextual factors (Burke & Stets, 2009).

One of the assumptions of role theory is "the fact that human beings behave in ways that are different and predictable depending on their respective social identities and the situation" (Biddle, 1986; p. 68). Thus, three main concepts that underlie role theory are: "patterned and characteristic social behaviours [i.e., roles], parts or identities that are assumed by social participants [i.e., social positions] and scripts or expectations for behaviour that are understood by all and adhered to by performer [i.e., expectations, that includes norms, beliefs and preferences or attitudes]" (Biddle, 1986; p. 68). Biddle states that expectations are the main generators of roles and that these can be learned through experience. According to this theory, social positions are linked to norms, which provide individuals with broad imperatives; however, it is up to individuals to work out the details of the roles (Biddle, 1986).

The socio-psychological concepts and assumptions of the role theory appear to be extremely helpful in analysing and interpreting teachers' behaviours within the school system (Biddle, 1986). According to Biddle, social positions that teachers work in are surrounded by the role definitions and expectations generated by different stakeholders (i.e., teachers, students, colleagues and parents); hence, teachers receive the broad imperatives, generally in the form of role descriptions and school policies and interpret the details of their roles according to their attitude and beliefs. Given this, the concept of Role Theory has been widely used in various educational studies (Allen, 2013; Balli, 2014; Belogolovsky & Somech, 2012; Normore, 2004; Somech & Oplatka, 2014).

Drawing on this theory, Phillippo and Stone (2013) examined the relationship between how teachers define their roles and responsibilities and their provision of various social and emotional support to students. They reported that the way teachers define their

roles was positively related to the amount of social support they provided to students in required conditions. In another study, Valli and Buese (2007) investigated how teachers' work increased, expanded, and intensified over four years since 2001. The results showed that teachers engaged in a larger number of tasks within an expanded scope in 2005, compared to earlier years. The main reason for this increase was reported to be intensified policies, which also promoted hierarchical control on teachers' roles and responsibilities.

One of the studies in second language learning/teaching that has benefited from Role Theory is the study conducted by Hubbard and Levy (2006). They developed a descriptive framework which attempts to remain flexible and reflect on teachers' technology-enhanced practices. The framework, therefore, does not claim any prescriptive approach (Hubbard & Levy, 2006). In this role-based framework for CALL education, two kinds of roles are proposed for language teachers: functional roles (i.e., what teachers actually do) and institutional roles (i.e., teachers' position in the school setting). Under functional roles, Hubbard and Levy introduced roles of practitioner, developer, researcher, and trainer, which are related to institutional roles in a matrix. Institutional roles include pre-service and in-service classroom teacher, CALL specialists, and CALL professionals. The functional roles are defined by Hubbard and Levy (2006, p. 11-12) as below:

- Practitioners are those who apply their knowledge and skill directly in the performance of their institutional roles. In particular, the traditional role of a teacher is linked to practitioner.
- Developers are those who are actively engaged in the creation of something new or revision or adaptation of existing work. Although "developer" has most often been used in the literature to label those who produce CALL software, it is intended here to refer also to those who construct language activities and tasks involving the computer in a significant way.

- Researchers in this context are those who attempt to discover new information relating to CALL or to pursue evaluation of the success of a CALL initiative.
- Trainers are those who are acting to build CALL knowledge and skills in others, rather than just language knowledge and skills. This role accommodates both formal and informal training, mentoring, and assisting of students and colleagues not subsumed by the previous roles.

According to the above explanations, CALL teachers' roles are perceived to be wider than technology-enhanced pedagogical practices and include searching and creating new learning materials, as well as engaging in peer-learning with colleagues and students (Hubbard & Levy, 2006). In other words, teachers are thought to have the capacity to become more than consumers, and develop context-specific learning materials, that others could also benefit from (Hubbard & Levy, 2006). According to the CALL teacher framework, it is simply possible through research that teachers could access a variety of technology-enhanced language learning materials. In view of this, acting the role of researchers could help teachers to become more effective practitioners and developers. Becoming a trainer, in contrast, is considered as the most advanced level for a language teacher's career, where he/she can train, mentor and assist students and colleagues in integrating technology into their practices (Hubbard & Levy, 2006).

Hubbard and Levy argue that knowing about CALL (knowledge) is different from what teachers can actually do (skills) with the available technologies to enhance their efficacy. A similar distinction is drawn between technical knowledge of new technologies and the pedagogical knowledge of language teaching. For a CALL teacher, it is unlikely to achieve effective teaching, without having adequate technical foundation (Hubbard & Levy, 2006). Teachers with technical CALL knowledge have fundamental understanding of computers and the peripheral tools and are able to update their knowledge by the advent of

new technologies. Teachers with pedagogical CALL knowledge, on the other hand, understand the ways to effectively benefit from computers and new technologies in their language teaching practices. Both technical and pedagogical knowledge are considered to be skills when teachers practically benefit from their knowledge and are able deal with various problems (Hubbard & Levy, 2006).

In a similar vein, Beaven et al. (2010) point out that language teachers need to continuously update their ICT knowledge and skills, and make sure that their knowledge is fully integrated into their own individual pedagogical beliefs and practices. If a teacher education program is circumscribed exclusively to the use of certain technologies (i.e., technological knowledge and skills), by the arrival of newer technologies those programs may be no longer useful and effective (Chao, 2015). The dynamic nature of CALL requires this field not be led by the latest technologies, but it is expected to be wary of what is going on in the world of technology and make the best use of those technologies in the pedagogy of second language learning (Levy, 1997).

It is argued here that there are a few important aspects that needed to be considered in this framework to strengthen its description of teachers' position in CALL. First, students and administrators' roles in the successful CALL program and contextual factors have not been included in this framework. Another limitation to this framework may be the lack of empirical research which could include various stakeholders' voices. Egbert et al. (2009) argued that the consideration of the classroom context is one of the fundamental requirements of rigorous research in CALL. They consider that to achieve this goal, teacher' and students' voices, observations, and concerns should be valued and taken into account. They asserted "teachers play a vital role in determining the success of the CALL classrooms; for this reason alone, we must change the way we do research" (Egbert et al. 2009, p. 754).

It may be argued that some consideration of the teacher's voice, indeed, can contribute to a better understanding of their roles in CALL, and build a bridge between theory and practice. Including CALL stakeholders' voices from different contexts, also, could provide us with rich information about each context's individual merits and weaknesses to develop and design more context-specific CALL education programs.

Levy and Hubbard's (2006) framework and Biddle's (1986) role theory provide valuable insights about the role of teachers in successful implementation CALL. Levy and Hubbard's framework in particular demonstrates how CALL teachers' roles can be divided into smaller sub-roles and explored individually. Similarly, Biddle's theory helps to understand how these roles and sub-roles are defined in particular social contexts. This helps to explore how language teachers perceive various roles for themselves in a CALL context and how these perceptions guide their actions.

As mentioned earlier in section 1.2 (statement of the problem), despite the existence of technological facilities in the Iranian PLSs, few teachers are willing to integrate technology into their teaching practices, and these technological tools usually remain untouched (Hedayati & Marandi, 2014). To address this problem and drawing on Levy and Hubbard's (2006) framework and Biddle's (1986) role theory, the current study attempted to investigate language teachers' roles in CALL in the Iranian context, by considering various stakeholders' voices and the contextual factors. Given this, it is important to gain a clear understanding of the foreign language learning, and CALL in particular, in the Iranian context, which is presented in the following section.

2.4.2 Foreign Language Learning in Iran

A brief overview of the foreign language learning in the Iranian context is provided below. This includes describing the Iranian Curriculum in general, and a detailed review of

foreign language learning. Strauss and Corbin (2008) state that delineation of the context is one of the critical elements of data analysis in qualitative research. “Context not only grounds concepts, but also minimises the chance of distorting meaning and/or misrepresenting intent” (Strauss & Corbin, 2008; p.57). Considering the strong link between language and culture, as well as Iranian society’s unique cultural patterns, it seems inevitable to describe the context and subsequently discuss the findings of the study accordingly in the following chapters.

Iran, also known as Persia, is a country located in the middle-east, neighbouring several countries: Turkey, Armenia, Azerbaijan, Turkmenistan, Afghanistan, Pakistan, and Iraq. Iran is also bordered by the Caspian Sea to the north and the Persian Gulf to the south. Data retrieved from the National Census completed in 2016 (*www.amar.org.ir/english*) reports that Iran’s population is 80,043,146, almost 60 million of whom live in urban areas. The report also shows a 94% literacy rate for Iranians aged 10 to 49. Tehran is the capital and the most populous city in Iran, home for more than %16 percent of the country’s total population.

The majority of people in Iran speak Persian (also called Farsi by locals) as their first language, which is the official language of the country, too (Brown & Ogilvie, 2009). There are also bilinguals in Iran who speak other languages such as Turkish, Kurdish, Arabic or one of the many other local languages, such as Gilaki (Brown & Ogilvie, 2009). In the city of Zanjan, where the data for the current research was collected, the majority of the people are bilinguals speaking Turkish and Persian. Many learners, therefore, acquire an additional language, such as English, as a third language. Within this study, the participants were English language teachers and students, excluding other foreign languages. The English language is considered as a foreign language in the Iranian context. Foreign language is defined as:

"a language which is not the native language of large numbers of people in a particular country or region, is not used as a medium of instruction in schools, and is not widely used as a medium of communication in government, media, etc. Foreign languages are typically taught as school subjects for the purpose of communicating with foreigners or for reading printed materials in the language (Richards & Schmidt, 2002, p. 206)."

Similarly, in the Iranian context, English is not used and spoken widely outside the educational environment (i.e., classroom context), and language learners are not engaged in authentic communication with native speakers of English in their immediate social context (Mohammadian Haghighi & Norton, 2017). The official language in the education sector is also Persian throughout the country, including areas with speakers of other languages and dialects. The Persian language is written in Arabic script, with an exception that the Persian alphabet includes four more letters making a total of 32 letters. Accordingly, a Persian speaker can read Arabic script to some extent, however, he/she would not be able to decode the meaning, unless he/she knows the Arabic language. By the advent of Islam in Iran in 637 and Islamisation of the country, many Arabic words crept into the Persian language, and since been widely used by Persian speakers (Kia, 1998). Almost all the documentation in Iran are printed in Persian as the official language, however, some organisations have bilingual (with English as the second language) documents to meet the foreign needs.

The school system in Iran follows a national curriculum designed and developed by the Ministry of Education (http://*www.medu.ir*). Therefore, learning materials, such as textbooks and standardised assessment tools, and procedures are almost the same in all the schools around the country. Children start going to school at the age of six. The primary school lasts for six years, followed by the middle school for three years, and high school for another three years (Hazari, 2015). According to the governmental policies, all the schools in Iran are single-sex, and girls and boys attend separate schools until they start higher

education at the university level (Hazari, 2015). Schools are generally divided into two main groups: public schools, which are tuition-free and funded by the government, and private schools, which charge tuition fees and are believed to have higher educational qualities in comparison to public schools (Khoshsima & Toroujeni, 2017). A third system, which is called ‘Nemuneh Mardomi’, lies between the two previously mentioned systems. These schools are believed to have better educational qualities compared to public schools, while more affordable compared to private schools (Khoshsima & Toroujeni, 2017). Nemuneh Mardomi schools, however, have limited vacancies and conduct entrance exams and only qualified students may apply.

The grading system in Iran is ordinal and awards scores from zero to 20 in middle and high school. This system, however, was recently modified for the primary school period, and students receive descriptive evaluations including ‘excellent’, ‘good’, ‘satisfactory’, and ‘needs further improvement’ (Hazari, 2015). The primary curriculum includes mathematics, science, Persian, social sciences, theology, art, sports, work and technology, thinking and research, and the Quran (Hazari, 2015). The study of foreign languages, particularly Arabic and English, begin from the middle school. By the end of middle school, students need to select from three high school types: the theoretical system, the technical-vocational/professional system, and the manual skills system (Hazari, 2015). The theoretical path includes three specialities: mathematics, experimental sciences, and literature/humanities. While the theoretical pathway prepares students to enter higher education at the university level, the other two high school systems help students to gain practical skills and prepare them to enter the job market by the time of graduation (Hazari, 2015).

Irrespective of the pathways or the specialities, all students need to undertake English and Arabic language courses as compulsory units (Sadeghi & Richards, 2016). This means

Iranian students study these foreign languages for six years, starting from the middle school to the high school. Research (Mohammadian Haghighi, & Norton, 2017), however, shows that the current foreign language teaching system in the Iranian schools has not been successful in helping students to become a proficient user of either English nor Arabic languages. While the nature of learning a new language requires authentic communication (Kumaravadivelu, 2006), the schools do not have the potential capability to achieve this aim.

There are several reasons for this phenomenon. One significant cause has originated from limited language class hours (Mohammadian Haghighi, & Norton, 2017). The allocated time for the study of English is generally limited to 90 minutes per week, and teachers need to address the prescribed materials in the textbooks within this restricted timeframe. This results in teachers mainly focusing on the lexical and syntactical elements of the language, and ignoring the communicative and social aspects (Mohammadian Haghighi, & Norton, 2017). Yet, a large number of the students in every class, often between 25 and 40, makes it even more difficult to engage the students in conversation in the target language in 90 minutes.

Another impeding factor is the structure of summative language assessments (Dahmardeh, 2009). According to Dehmardeh, the majority of the language-based end-of-the-term exams in the Iranian school system are paper-based and do not assess students' communicative skills, such as speaking and listening. Tests mainly comprise of multiple-choice, fill in the blank, and short response questions. Dahmardeh (2009) states that achievement in language units are recognised by the ability of the students to answer lexical and syntactical questions in the test rather than adequate attention to communicative aspects.

Most schools also irrespective of their size and population are not equipped with technological tools, such as CD players, TVs, or computers (Hedayati, Reynolds & Bown, 2018). Accordingly, teachers are not able to provide students with authentic learning

materials in the target language by, for example, playing audio or video resources (Hedayati et al., 2018). Given this, it seems that teachers maintain their focus on covering the text-based materials in the course books, which do not require the use of any technologies.

From a cultural perspective, while proficiency in the Arabic language is not considered essential, many students are motivated to develop their English language communicative competence to fulfil their future needs in the globalised world (Khoshsima & Toroujeni, 2017; Sadeghi & Richards, 2016). The majority of language learners (especially adult learners), therefore, in Iran enrol in courses in private language schools (PLS) to learn a foreign language, mainly English, in a communicative and more flexible way (Hedayati et al., 2018). Mohammadian Haghighi and Norton (2017) reported that lack of competent language teachers and limited class hours in the general schools motivate language learners to seek better language learning experiences in PLSs. Accordingly, PLSs tend to adopt communicative teaching approaches, such as communicative language teaching (CLT) and Task-based language teaching (TBLT), rather than methods informed by behaviouristic approaches, such as audiolingual and grammar translation methods (Hedayati et al., 2018).

A short description of TBLT and CLT teachings approaches is presented next to explain the key features of each approach. Nunan (2004, p.1) describes the following characteristics for TBLT approach:

- A needs-based approach to content selection.
- An emphasis on learning to communicate through interaction in the target language.
- The introduction of authentic texts into the learning situation.
- The provision of opportunities for learners to focus not only on language but also on the learning process itself.
- An enhancement of the learner's own personal experiences as important contributing elements to classroom learning.

- The linking of classroom language learning with language use outside the classroom.

According to the above characteristics, in TBLT language, learners are deemed to play more active roles in language learning processes and extend their learning experiences beyond the classroom environment (Nunan, 2004). The use of authentic materials and selecting content according to learners' needs help them to better relate the classroom practices to their extramural everyday activities. Defining a task by the teacher and its implementation by the students are at the core of TBLT, and the main components include goal, input and procedure (Nunan, 2004). In completing the tasks, language learners attempt to achieve a certain pre-determined goal, which necessitates them to follow particular procedures. In general, any activity in the classroom environment would be assumed as a task, however, tasks need to be used as a work plan with focusing on the negotiation of meaning and achieving a certain goal (Nunan, 2004).

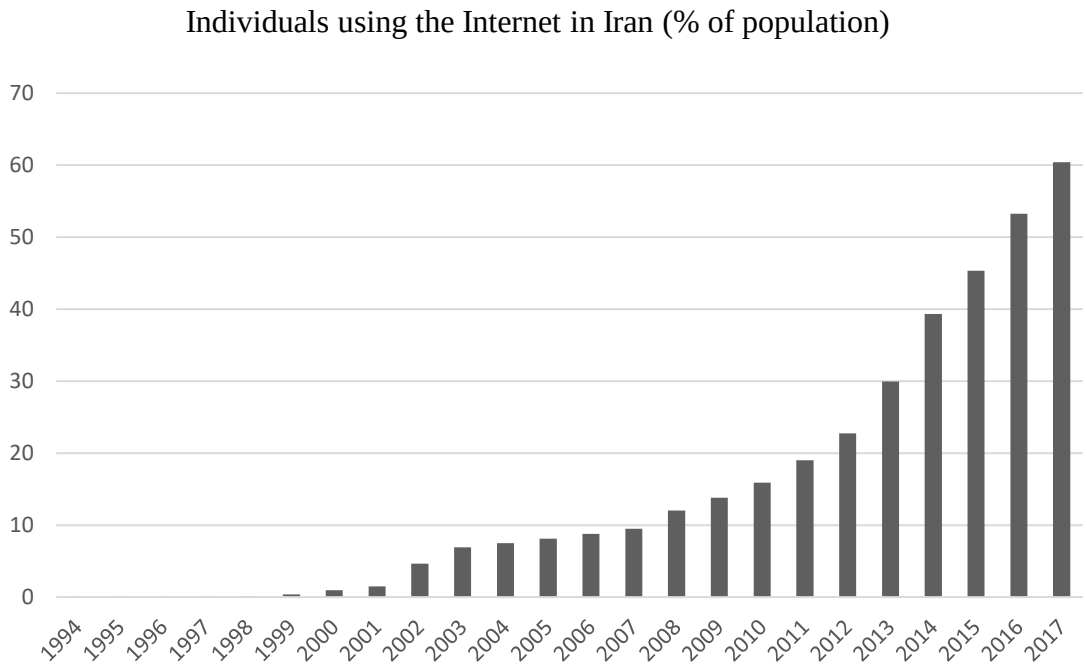
As noticed by Nunan (2004), CLT is not a unitary approach for it embraces a collection of several approaches that focuses attention on the communication and negotiation of meaning, and teaching language learners what they need to know to be able to achieve their real-life goals. In CLT, language learners are primarily expected to develop their communicative competence. These insights led to the introduction of programs such as ESP (English for Specific Purposes) which puts forward the idea that a tourist to England, for instance, would have different language needs in comparison to an air traffic controller in Singapore (Nunan, 2004). While TBLT mainly is concerned with the completion of a task as the indictor of successful learning, CLT approach directs more attention to the interaction among the language learners. Both approaches, however, focus more on negation of meaning, rather than language form (Nunan, 2004).

On the other end of the continuum are methods with behaviouristic approaches to learning, such as the Grammar-Translation Method (GTM) and the Audiolingual method. Main principles and practices of these two methods are shortly presented here. In GTM language learners are encouraged to memorise long vocabulary lists, translate target language into the mother tongue, and learn grammar rules largely following PPP paradigm: that is present, practice, and produce (Kumaravadivelu, 2006). GTM lost its popularity by the advent of a more theory-based method called Audio-lingual in the 1970s (Richard & Rodgers, 2014). The Audiolingual method was believed to be the first method which was constructed based on the theories of language, language teaching, and language learning (Kumaravadivelu, 2006). The Audiolingual method is considered to be language-centred, which means learners are presented with preselected and pre-sequenced chunks of language to learn target language by repetition and memorisation techniques (Kumaravadivelu, 2006).

2.4.3 CALL in the Iranian context

Prior to the investigation of CALL, a short description of various uses of technologies, particularly the Internet, in the Iranian context is presented here to project a broad picture of technology use in the Iranian context. Statistical data of people's use of technology reveal valuable information. Data retrieved from WorldBank website (http://data.worldbank.org), for example, show that in 2017 above 60% of the Iranian population were Internet users, considering the 80,043,146 population (see Figure 2.1). The Internet user is defined as an individual, of any age, who can access the Internet at home, via any device type and connection (internetlivestats, 2016). As shown below, the number of Internet users has grown from nearly 10% to above 60% over a decade, from 2007 to 2017.

Figure 2. 1 *Individuals using the Internet in Iran (% of the population)*



Similar data from Iran's Department of Information and Communication Technology (https://www.ict.gov.ir) demonstrated that in 2012 the majority of the Internet users were aged between 20 to 29 years old (43.2 %). These numbers show that new technologies, like the Internet, are quite prevalent in Iranian society, and the use of these tools demonstrates an increasing trend. The same data show that the Internet is mainly used for undertaking administrative tasks for online government applications (e.g., online registration and filling out forms). Other uses of the Internet include email exchange, acquiring information about goods and services, multimedia (e.g., downloading or watching movies) and reading online books, newspapers or journals. In more recent years, however, most of the Internet data in Iran is consumed for using social media apps such as Instagram and Telegram (https://www.ict.gov.ir).

The Internet penetration rate for Iran appears to be an accurate indicator for estimating people's general use of technologies, as connection to the Internet requires using

devices such as a smartphone properly (Craig & Kim, 2012). Figure 2.1 shows that the new technologies such as the Internet are extensively used by Iranians to undertake various daily tasks, however, the education sector, and second language teaching/learning in particular, does not effectively integrate these tools (Gilakjani & Rahimy, 2019). A recent study conducted in Iran investigated English language teachers' (N=394) use of technologies in the Iranian public high schools (Jahanban-Isfahlan, Hadidi Tamjid & Seifoori, 2017), which revealed that teachers demonstrated minimal use of technologies in their practices. Jahanban-Isfahlan et al. (2017) argued that "teachers do not adopt technology-enhanced language learning as a primary mode of instruction. Rather, technology is used occasionally as a supplement to traditional face-to-face classroom instruction" (p.7).

Research shows that in the PLSs, however, the situation appears to be rather different. While the use of technology in PLSs seems to be increasing at the same time with becoming more equipped with technological tools (Dashtestani, 2014), it has not yet resulted in the extensive use of technology (Gilakjani & Rahimy, 2019). Over the last decade, CALL research has attracted many Iranian researchers' attention. Several studies have attempted to identify current challenges and obstacles for technology use in EFL learning classrooms (Dashtestani, 2014; Gilakjani & Rahimy, 2019; Khaksefidi, 2015) and particularly teachers' perceptions of the affordances and challenges of integrating technology into their practices (Dashtestani, 2013; Fatemi Jahromi & Salimi, 2013; Hedayati & Marandi, 2014; Mozafari & Wray, 2013; Safari & Rashida, 2015; Vahdat & Gerami, 2015).

Daneshdoust and Keshmiri (2012) investigated the advantages and disadvantages of Internet-based language learning in the Iranian context. In terms of advantages, they reported the following: openness in terms of time and space barriers, learning autonomy, and stimulating interests of the language learners. They, however, noted the existence of several difficulties: too much information as a source of confusion for learners, the superiority of

face-to-face teaching to Internet-based teaching in terms of learner motivation, chaotic learning process, teachers' relatively limited roles in the online environment, and lack of learner self-control.

Over the last decade, various CALL studies in Iran have attempted to investigate the impact of technology use on learning different language skills, such as vocabulary (Ghaemi & Ebrahimi, 2015; Khodaparast, & Ghafournia, 2015; Moazzeni, Bagheri, Sadighi & Zamanian, 2014;), grammar (Pirasteh, 2014) reading (Behjat, 2013; Dehghanpour & Hashemian, 2015; Kaviany, Khany, & Gowhary, 2014; Yaghoobi & Razmjoo, 2016), writing (Hajimaghsoodi & Maftoon, 2018; Tabatabaei, Khan, Gavidelnia, & Ramzi, 2017), pronunciation (Gilakjani & Sabouri, 2017), listening (Movahedi, Lotfi, T., Abdolmajid & Sarkeshikian, 2017; Zarei & Parhizkari, 2017) and speaking (Abdolmanafi-Rokni & Hamidi, 2015).

Another thread of research has focused on language learning experiences via social media tools. In a quasi-experimental study, Ghobadi and Taki (2018) investigated the implementation of the Telegram app, as one of the most used social networking apps in Iran, for vocabulary learning. The comparison of data collected from the pre-test and post-test results indicated that the use of Telegram Stickers helped students in the experimental group to outperform their counterparts in the control group in terms of the rate of their vocabulary learning. One finding highlighted that students used various stickers to express their emotions, such as happiness, grief and surprise (Ghobadi & Taki, 2018).

In another study, Hedayati and Foomani (2015) investigated the language learners' performance in synchronous computer-mediated communication (CMC) in relation to their individual learning styles. The results proved that the learning style is a determining factor in language learners' performance in online environments in terms of vocabulary, grammar, and discourse (Hedayati & Foomani, 2015).

Computer-assisted language assessment has also been researched in the Iranian context (Asoodar, Atai, Vaezi & Marandi, 2014). In Tarighat and Khodabakhsh's (2016) study, for instance, the research investigated students' attitudes toward mobile-assisted language assessment for speaking proficiency. The results indicated that the provision of additional time for students through mobile-assisted assessment positively impacted their performance, however, students doubted gaining similar results in a real-life situation.

The variety and scope of the research studies in recent years indicates the increasing role of computers in second/foreign language instruction in Iran. One important aspect that requires further research is the role of the teacher in the successful implementation of CALL. A review of the related literature reveals that the teachers' role transition from the traditional face-to-face classroom to CALL in the Iranian context has not been extensively studied. Still, little is known about the CALL teacher education/training types and scope in the Iranian context and its impact on the teachers' technology-enhanced practices.

Another area needing to be researched is the gap between Iranian teachers', students' and PLS administrators' perceptions and breadth of role definitions (Phillippo & Stone, 2013) regarding the use of technology in EFL classroom. Research shows that there is a relationship between the teacher's role definition and practices (Somech & Oplatka, 2009). Gaining a more comprehensive understanding of the above-mentioned groups' definition of teachers' roles and addressing the possible mismatches may help teachers to become more informed about their roles and responsibilities.

2.5 Conclusion

The literature review provides an overview of computer-assisted language learning studies and practices, and the contributing factors to its successful implementation, as well as the existing barriers. It was noted that language teachers play important roles in successful

implementation of CALL and for this reason it is critically important to investigate the ways that teachers can integrate new technologies into their practices. Review of the literature showed that teachers face various challenges in integrating new technologies into their practices; including time and cost barriers, absence of learner discipline and cultural differences in the online learning environment, relocation to computer sites, institutional, social and professional limitations, and technical constraints, such as absence of body language in synchronous audio communication. Similarly, teachers' attitudes towards CALL and provision/lack of CALL-specific training were among the contributing factor. Research still continues on finding the best ways to eliminate the above-mentioned barriers and provide teacher with effective training modes to prepare them for CALL implementation.

The main problem under investigation in this study was the Iranian language teachers' reluctance to implement the available new digital technologies for language teaching purposes. Accordingly, the characteristics of foreign language teaching/learning in the Iranian context were reviewed, leading towards teachers' roles in the implementation of CALL. Considering the critical role of the PLSs in foreign language learning in Iran, this study only focused on these schools, excluding other public and private schools. Although identification of infrastructural barriers and teachers' attitudes have provided us with valuable insights into the problem, it does not appear to be sufficient. In view of this, the current study attempted to investigate Iranian language teachers' understanding of their roles in CALL. To gain a deeper understanding of the phenomena, language learners' and PLSs administrators' perspectives will also be collected as well. In accordance with this, the following research questions have been framed:

- RQ1: How do Iranian EFL teachers understand their roles and responsibilities with regard to CALL?

- RQ2: To what extent do Iranian EFL teachers' perceptions of their roles affect their use of CALL?
- RQ3: What are the expectations of Iranian EFL students and school administrators with regard to the use of CALL by Iranian EFL teachers?
- RQ4: What are the common CALL teacher training types in Iran and their impact on teachers' CALL practices?

In the following chapter, the research methodology is explained. Data collection results and discussions are presented in chapters four and five. Responses to the above research questions are presented in the discussion in chapter 5.

Chapter 3
Methodology

3.1. Introduction

This chapter presents an overview of the research methodology employed in this study. It will begin by describing the overall underlying research approach, accompanied by the specific research design. After, the participants' characteristics and sampling methods will be presented. The chapter will continue by introducing the implemented materials and data collection instruments. Lastly, data collection procedure and analysis are explained. The research methodology presented in this chapter worked towards and provided the essential tools to answer the following research questions:

- RQ1: How do Iranian EFL teachers understand their roles and responsibilities with regard to CALL?
- RQ2: To what extent do Iranian EFL teachers' perceptions of their roles affect their use of CALL?
- RQ3: What are the expectations of Iranian EFL students and school administrators with regard to the use of CALL by Iranian EFL teachers?

- RQ4: What are the common CALL teacher training types in Iran and their impact on teachers' CALL practices?

These questions were framed to address the underlying research problem in this study, and the identified gap in the CALL teacher education in the Iranian context (see 1.2). The results of the study and the answers to these questions are presented in the results (4) and discussion (5) chapters.

3.2. Research Approach and Design

As Creswell (2014) states, "research approaches are plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation" (p.3). Accordingly, an important element of every research project is having a clear approach, which will guide the researcher at different stages of the process, from broad assumptions to findings. As advised by Creswell, the current research began by identifying the broad assumptions and purposes and then adopting an approach, which informed the data collection, analysis, and interpretation methods.

One key assumption underlying the present study was that the language teachers' roles are continuously changing, and both qualitative (e.g., in-depth interviews) and quantitative (e.g., survey) data needed to be collected to identify and explain these changes. In a similar vein, it was assumed that after delving into this issue, new concerns and directions might be introduced, and this could be best handled by adopting a flexible research approach. The other key assumption was that the development of a context-specific CALL framework for training the Iranian teachers was necessary. These assumptions were made based on the identification of the existing problems (see 1.2).

The nature of the assumptions above and problems addressed in this study, and the subsequent research questions, demanded to adopt a pragmatic approach to conduct it successfully and find relevant answers. It is believed that pragmatism help researchers to gain the best understanding of a research problem using both qualitative and quantitative data (Creswell, 2014). Creswell argues that with a pragmatic research approach, researchers are not bound to certain data collection and interpretation methods, and they can choose the methods, techniques, and procedures that fit their objectives to arrive at desired goals of the study and find answers to the research questions. In this study, however, a more conservative interpretation of pragmatism was adopted and, overall, this adhered throughout the data collection methods and interpretations. In other words, consideration was given to the features of the research context and participants, with necessary modifications made to collect the most comprehensive data, which allowed provision of answers to the research questions (see 3.5). In addition, no major changes were made to the planned data collection methods and procedures.

This study employed an exploratory sequential mixed methods design, which is considered to be congruent with a pragmatic approach (Creswell, 2014). The rationale for employing this design was to primarily explore the phenomena by gathering qualitative data about teachers' perceptions and explore the various aspects of the issue. As outlined in the theoretical framework (see 1.6), the study built on exploring language teachers' roles and responsibilities, and the qualitative design at this stage allowed gathering necessary data for this purpose. The conceptualisation of teachers' roles adopted for this research is based on the CALL teacher framework proposed by Hubbard and Levy (2006). It also draws on the psychological and social aspects of the 'role theory' proposed by Biddle (1986) Data from qualitative phase then informed the data collection in the quantitative stage by informing the formation of the survey questions (see 3.4.3). It was assumed that having both qualitative and

quantitative data would provide an in-depth understanding of the phenomena, and an increased generalisability of the findings to the larger Iranian context.

Creswell (2014) also emphasises that mixed methods are particularly suitable for thesis projects because they minimise the limitations of both qualitative and quantitative approaches, and provide the opportunity for extensive investigations. He outlines the following features of mixed methods research:

- It involves the collection of both qualitative (open-ended) and quantitative (closed-ended) in response to research questions or hypotheses.
- It includes the analysis of both forms of data.
- The procedures for both qualitative and quantitative data collection and analysis need to be conducted rigorously (e.g., adequate sampling, sources of information, data analysis steps).
- The two forms of data are integrated in the design analysis through merging the data, connecting the data, or embedding the data.
- These procedures are incorporated into a distanced mixed methods design that also includes the timing of the data collection (concurrent or sequential) as well as the emphasis (equal or unequal) for each database.
- These procedures can also be informed by a philosophical worldview or a theory (Creswell, 2014, p.217).

The current study placed equal weight on both qualitative and quantitative data; however, data were collected sequentially at different time intervals. Accordingly, the study began by conducting the qualitative phase, in which the researcher investigated and explored the participants' performance and perceptions on the subject using observation and interview methods (Creswell, 2014). Once the qualitative study was conducted and data were analysed,

the findings of this stage, together with the relevant literature and expert consultation, shaped the structure and content of the second phase, which was quantitative. The following section provides detailed information about the participants of the study.

3.3. Participants

Prior to the recruitment of the participants, the features and characteristics of the target population were identified and considered during the ethics application process. After gaining ethics application approval from the Tasmania Social Sciences Human Research Ethics Committee (reference No. H0015935), the recruitment process commenced. Participants in this study were invited and recruited in two discrete stages: first, for the qualitative part, and secondly, for the quantitative section. This is because at each of these stages, different numbers of participants, with varying characteristics, were recruited. Furthermore, the qualitative and quantitative phases of the study were conducted at different times, with a period of almost five months between them. All participants were Iranian and at the time residing in Iran. Although most of the participants were language teachers, a small number of language students and school administrators were also involved in the qualitative phase to conduct interviews. During the recruitment process, caution was exercised to recognise the linguistic and cultural diversities within the target population.

3.3.1 Qualitative phase

Participants in the qualitative phase included Iranian English language teachers and learners, as well as language school administrators. They were recruited through third parties, who were administrators of the private language schools (PLSs) in a northern city of Iran, Zanjan. All participants were adults (over 18 years old) and comprised of both males and

females. Teachers with varying teaching experiences were recruited, ranging from early career (2 years) to relatively experienced (13 years) teachers.

The PLSs were selected through convenient purposeful sampling, to select schools equipped with technological tools (e.g., computers, language lab, and Internet access). Since the topic of the research is teachers' use of technology, schools with no technological tools were not considered as appropriate contexts for data collection. All the participants were randomly selected from four PLSs. Zanjan was chosen because the researcher conducting the study had extensive teaching experience in the city, and this provided appropriate access to potential participants. In addition, there is a large number of PLSs in Zanjan, which also facilitated the recruitment process. These factors, for selecting the research sites and participants support Creswell's (2014) principles that:

> the idea behind qualitative research is to purposefully select participants or sites (or documents or visual material) that will best help the researcher understand the problem and the research question. This does not necessarily suggest random sampling or selection of a large number of participants and sites, as typically found in quantitative research (Creswell, 2014, p. 189).

Table 3.1 shows the distribution of the participants in the qualitative phase of the study. A total number of 16 individuals participated at this stage.

Table 3. 1 *Distribution of the participants*

	EFL Teacher		**Learner**	**Administrator**
	More experience (5-13 years)	Less experience (2-4 years)		
Male	3	1	2	3
Female	2	2	2	1
Total	5	3	4	4

Table 3.2 illustrates the teacher participants' demographics, including age range, teaching experience, and qualifications. Importantly, to conduct interviews anonymously, the teachers' real names were not recorded, and instead, they were assigned pseudonyms: Arash, Sima, Maryam, Ava, Navid, Reza, Mahin, and Amir. Prior to being interviewed, the teachers were invited to answer a 10-question Self-assessment (see Appendix 4) asking about their knowledge of ICT (Information Communication Technology). The ICT knowledge evaluation results are presented in the range between 1 (lowest) to 5 (highest).

Table 3. 2 *Demographics of the teacher participants*

Teacher Nickname	Gender	Age Range	Teaching Experience	Qualifications	ICT Mean Score
Arash	M	31-40	13	PhD in TEFL/ TTC (Teachers' Training Course)	4.6
Sima	F	18-20	2	ILI Graduate/ TTC B.A Student in IT	4.8
Maryam	F	21-30	5	M.A. Student in TEFL/ TTC	3.7
Ava	F	21-30	2	B.A Student in English Language Translation/ TTC	3.9
Navid	M	21-30	6	M.A student in TEFL/ TTC	3.3
Reza	M	21-30	9	B.A in Psychology/ TTC	2.6
Mahin	F	21-30	8	M.A. in TEFL/ TTC	3.4
Amir	M	21-30	2	B.A student in TEFL/ TTC	3.1

3.3.1.1 Teacher Participants' profile

This section provides comprehensive information about each of the teacher participants in the qualitative phase, which particularly includes further explanations about their academic degree and qualifications.

Arash held a PhD in Teaching English as a Foreign Language (TEFL), which is one of the most widely studied subjects related to foreign/second language teaching in the Iranian Universities. Other language-related subjects include Literature and Language Translation. Both undergraduate and postgraduate students of TEFL study certain units related to foreign language teaching. For example, Principles and Methods of Teaching Foreign Languages, Pedagogical Phonetics, Practical Teaching, Syllabus Design and Material Development, Psycholinguistics, and Second Language Acquisition are among the units offered by university faculties. Other students, who undertake Language Translation or Literature degrees, also study several units related to foreign/second language teaching principles. Studying TEFL prepares students for teaching foreign languages to language learners at different age levels; however, the majority of the units available are theoretical, with only a limited number of practical units offered to help students gain hands-on experience (Safari & Rashida, 2015). In other words, it is not surprising to find a graduate in TEFL who lacks practical teaching experience throughout his/her studies.

Arash also held a Teacher Training Course (TTC) qualification. TTCs are generally offered to both pre-service and in-service language teachers by the PLSs, which particularly require pre-service teachers to pass this course before beginning their teaching in any PLS. As explained by the participants in the interviews, TTC delivery type ranged from a one-day workshop to a 5-session course, depending on each PLS's policies. Pre-service teachers needed to pay for these courses, while the in-service teachers were exempted from this fee. As reported by the teachers, this training mostly included a review of the teaching methods and techniques, class management strategies, and school policies and procedures. During this training session, teachers find opportunities to gain practical teaching experience and share their knowledge and skills with other teachers and receive feedback.

Arash was aged between 31 and 40 and had 13 years of English language teaching experience in various PLSs. He also had three years of teaching experience at the university level, teaching English for Specific Purposes (ESP). Arash's ICT knowledge mean score was 4.5 out of 5, which indicates a good self-reported command of ICT knowledge.

Sima was the only teacher whose age ranged between 18 and 20 years old, with two years of language teaching experience. She was a bachelor student in IT (Information Technology), but she held two language-related qualifications, ILI degree and TTC. ILI stands for Iran Language Institute, which is a well-known and prestigious language school in Iran, and graduates of this school are believed to have a good command of target language skills. Sima's ICT knowledge score was 4.8, which is not surprising, for she was studying IT at university. Despite her relatively younger age compared to other teachers, Sima was teaching adult language learners, mainly in their twenties.

The second female teacher, Maryam, was aged between 21 and 30 and was a second-year master's student in TEFL in Zanjan University. She had taught English as a foreign language for about five years by the time of the interview, which is considered relatively experienced in this study. Maryam's bachelor's degree was in English Language Translation. Maryam's ICT score was 3.7, which is considered a relatively high score in this study, compared to other participants.

The third female teacher, who received the pseudonym of AVA, was relatively new in the profession of foreign language teaching, with almost two years of experience. AVA was aged between 21 and 30, and she was a third-year bachelor's student in English Language Translation. Despite studying translation course at university, she described English language teaching as her main job, which was on a part-time basis. AVA and Sima were from two different PLSs, but they had almost the same teaching experience. AVA's self- assessed ICT knowledge score was 3.9, which lies among the high scorers.

Navid, the second male participant in this study, aged between 21 and 30. Navid was a second-year master's student in TEFL. He had six years of teaching experience English as a foreign language, and his current workplace was the third school he had been teaching throughout his 6-year career. The interview results indicated that moving from one PLS to another over a short period of working in several PLSs at the same time was a common practice (see further discussion in chapter 5). Similar to other participants in the study, Navid had also taken a TTC course in the school where he was employed. His ICT knowledge score was 3.3, which was relatively low in relation to the other participants.

Another experienced teacher was Reza, with nine years of English language teaching experience. His age range was between 21 and 30. Similar to Sima, Reza also had a non-language related university degree. He held a bachelor's degree in Psychology, however, he had undertaken English language courses in PLSs and was a fluent and competent English language speaker. Reza had also undertaken TTC in the same PLS that he was employed. His ICT knowledge score was 2.6, which was the lowest among the participants.

The last female participant was Mahin, who was also an experienced teacher. Her age range was between 21 and 30, and she had eight years of teaching experience, which results in being the most experienced female teacher in this study. She held a master's degree in TEFL and had undertaken a TTC course. Her ICT knowledge score, compared to the others, was among the average, with a 3.4 out of 5.

The last participant was Amir (aged between 21 and 30). He was a bachelor's student in TEFL and had only two years of teaching experience. His ICT knowledge mean score was 3.1. Amir and Mahin were from the same PLS, however, their teaching experiences varied to a large extent. While he had only worked in his current workplace, Maryam had taught in two other PLSs before.

In sum, six participants held university degrees related to English language teaching, including one with a PhD, three with master's and two with bachelors. The other two participants held university degrees in Psychology and Information Technology (IT). Three teachers had more than eight years of teaching experience (Arash, Reza and Mahin). Maryam and Navid had respectively five and six years of teaching experience, while the other three teachers had only two years of teaching experience (Sima, Ava and Amir).

3.3.1.2 Administrator and student participants

Table 3.3 shows the other participants' demographics, including the students and PLS administrators. To conduct interviews anonymously, participants' real names were not recorded, and instead, they were assigned letters (A, B, C, and D). Students and administrators were recruited from the same four schools.

Table 3. 3 *Administrators and students' demographics*

Stakeholder	Code	Gender	Age Range
Admin	A	M	31-40
Admin	B	F	31-40
Admin	C	M	21-30
Admin	D	M	31-40
Student	A	F	18-20
Student	B	F	21-30
Student	C	M	18-20
Student	D	M	18-20

The administrator participants were also the owners of these PLSs, a common situation in the majority of the PLSs in the Iranian contexts. Accordingly, the administrators are considered as the main decision-makers regarding various educational and financial issues. In this study, three of them held language-related university degrees, and the other one

held a degree in philosophy. All of the administrators had the experience of teaching the English language at various levels, and two of them were currently involved in teaching practice in their PLSs.

Student participants were recruited from four different schools in Zanjan. They were selected from intermediate and advanced level English language learners. At the time of data collection, they were bachelor's students at two different universities, studying electrical engineering, industrial engineering, agricultural engineering, and psychology. They were all adult students and took an English language course in PLSs to improve their competency and knowledge, with a focus on developing their communicative skills.

3.3.2 Quantitative

In the quantitative phase, participants included a larger number of EFL teachers from different cities around Iran. Although some teachers were invited to participate in the study through PLSs, the recruitment process was largely undertaken electronically via the LinkedIn website (http://wwww.linkedin.com). Accordingly, a large number of Iranian EFL teachers were randomly identified by searching on the LinkedIn website and then information sheets, and invitation letters were sent to them. To ensure randomisation, around 800 Iranian teachers from various cities of Iran were initially identified, and then every third one was sent an invitation to participate. Those who agreed to participate in the study were sent the link to the online survey. Random selection of population allowed all the potential participants to have equal chances of selection and increased the generalisability of the findings (Creswell, 2014).

The reason for recruiting participants through LinkedIn was threefold. First, it was convenient to search for and identify teachers who met the eligibility criteria required for this study. When a teacher uses LinkedIn, the presumption is that she/he has the basic literacies

for using Internet, web browsing, social media and similar affordances of ICT (information and communication technology). This aspect also served as the stratification of the population by selecting samples which have certain characteristics. Secondly, the survey implemented in this study was online, and it was convenient to send the link to the participants through LinkedIn's messaging feature. Finally, this medium provided the opportunity to reach subjects from 22 different cities around Iran, a variation that, in turn, enhanced the generalisability of the findings to the target population.

The relative positions of the cities and their distribution are depicted on the map in Figure 3.1. As highlighted on the map, three cities of Tehran (THR), Mashhad (MSH) and Zanjan had the largest number of participants in the study. Of the 265 invitations sent to the teachers, 148 individuals agreed to participate in the study. Another eight incomplete surveys were excluded from the study, which resulted in a total number of 140 valid surveys were analysed.

Figure 3. 1 *Distribution of participants around Iran*

3.3.2.1 Gender, age and teaching experience

Participants in the study comprised of both males and females in different age groups. Demographic data from the survey showed that the female participants (68.6%) outnumbered the male participants (31.4%). Participants' age range and years of teaching experience are demonstrated in Table 3.4. The majority of the participants (70%) were aged between 26 and 35 years old. Another common age group was 21-25, comprising of 12.9 % of the whole population. Data in Table 3.4 also show that participants had varying teaching experiences, including those who were in the early stages of their teaching career (i.e., 1-3 years), as well as individuals with extensive teaching experience (i.e., ten years or more).

Table 3. 4 *Survey Participant Demographics*

	Range	**n**	**%**
Age	18-20	2	1.4
	21-25	18	12.9
	26-30	50	35.7
	31-35	48	34.3
	36-40	12	8.6
	Above 40	10	7.1
Teaching experience (years)	1-3	28	20
	4-6	50	35.7
	7-9	18	12.9
	10 or more	42	30

3.3.2.2 Qualifications

Other questions in the demographics section of the survey asked participants about their academic qualifications (see Appendix 8). The aim here was to gather data on teachers' qualification level, as well as the subject areas in which they had achieved the qualifications. Accordingly, teachers responded to the question "specify your highest professional qualification/degree (graduate or current student) related to the English language". Almost two-thirds of the teachers (62.9%) reported holding a master's degree in a subject related to

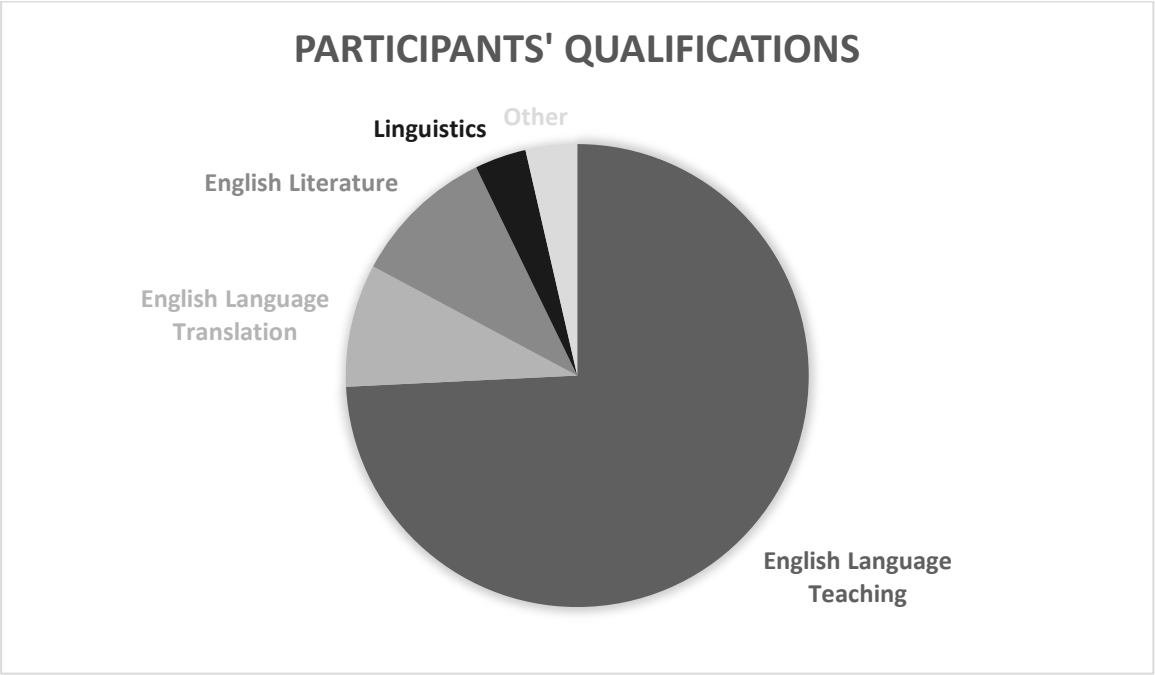
the English language. A similar number of teachers held bachelor's and PhD degrees, each accounting for 15.7% of the total population. The other eight teachers indicated that they had no professional degrees relevant to the English language (see Table 3.5).

Table 3. 5 *Highest professional (university) degree*

highest professional (university) degree	**n**	**%**
Bachelor's degree	22	15.7
Master's degree	88	62.9
PhD	22	15.7
I have no professional degree related to English language	8	5.7

Participants were asked to identify the subject area of their qualification. More than two-thirds of teachers (74.3%) reported holding/studying degrees in English language teaching, which is more specifically called TEFL (teaching English as a foreign language) or TESOL (Teaching English to Speakers of Other Languages). Of the remaining respondents, 12 (8.6%) chose English language translation, and another 14 (10%) chose English literature (for further information about these two subjects see qualitative participants earlier in this chapter). Another 5 (3.6%) participants reported holding/studying Linguistics. The remaining teachers who reported not having degrees related to the English language identified several other subjects, including information and communication technology (ICT), computer science, chemistry, and accounting.

Figure 3. 2 *Participants' qualifications*



Finally, the participants were asked if they had taken a teacher training course (TTC) in any PLS. Most of those surveyed (78.6%) indicated that they had gone through TTC; however, another 21.4% had not experienced any TTC, but they all held/were studying language-related university degrees.

3.3.2.3 Job status

As a final question, participants were asked to identify their job status as part-time or full-time teachers. It is necessary here to clarify exactly what is meant by part-time or full-time. In this study, part-time refers to teachers teaching less than 30 hours a week, while those who teach 30 hours and more are considered fulltime teachers. These teaching hours were calculated according to the common language teaching timetables in the Iranian PLSs, which usually includes six days of teaching (from Saturday to Friday) covering three classes of 90 minutes from 4 to 9 P.M. Clearly, there are other PLSs who employ different teaching timetables. This being the case, the part-time teachers usually are involved in teaching in the

afternoon classes, allowing them to engage in other activities for the rest of the day. Whereas, full-time teachers may be offered extra classes in the morning shifts or weekends. The survey results showed that 61.4 per cent (n=86) of the teachers in this study were part-time teachers, whereas the other 38.6 per cent (n=54) identified themselves as full-time teachers.

3.4. Instruments

For the purpose of data collection, various instruments were employed in this study. In the qualitative phase, classroom observations and interviews were conducted to collect data from EFL teachers, students, and PLS administrators. Whereas in the quantitative phase, a large-scale survey was implemented to gather data from a larger population of EFL teachers. The development and implementation of these instruments are provided in the following sections.

3.4.1 Observation

Creswell (2014) defines observation as a data collection tool where "the researcher takes field notes on the behaviour and activities of individuals at the research site" (p. 190). Creswell (2007) divides observation into four types: observing as a participant, observing as an observer, observing as both participant and observer with varying roles at different stages, and lastly, observing primarily as an outsider and later on becoming an insider. According to this categorisation, the observation in this study included observing as an observer without any participation in the language teaching/learning activities. Accordingly, the observations phase in this study included observing eight classrooms to gather data on teachers' use of technological tools.

As the observation was planned to be semi-structured, an observation form (see Appendix 3) was developed in advance to guide the observer throughout the observation

time. This semi-structured observational protocol consisted of 10 different criteria for taking note of teachers' practices, ranging from their general teaching methods to their reaction to technological problems during the implementation (see Appendix 3). In response to any of these criteria, the observer recorded open-ended notes, together with reflections and comments. There was an additional section in the form for providing further notes that were not initially predicted among the identified criteria.

3.4.2 Interview

After completion of the classroom observations, the interview phase commenced. Interviews were conducted to collect data from EFL teachers (n=8), language learners (n=4), and PLS administrators (n=4). The interviews were semi-structured, comprising open-ended questions within three main themes:

- Development of CALL materials
- Implementation of CALL materials
- Evaluation of CALL materials
- CALL Teacher Training

These themes and the accompanying interview questions were driven from three main resources: theoretical perspectives in the CALL literature, consultations with experts, and themes and questions emerged from analysing data in the observation phase. The overall structure and content of the interview questions were the same for the three groups of interviewees (i.e., teachers, students and administrators); however, minor changes were made for some questions to meet the characteristics of each group (see appendices 5, 6 & 7) for the interviews). For example, the question for teachers "have you ever designed/developed a CALL task/material" was modified to "have you ever been involved in designing/developing

a CALL task/material" for students, and to "how do you think teachers can design/develop tasks/materials for CALL" for the PLS administrators.

3.4.3 Survey

The purpose of using a survey at this stage was to seek a larger number of teachers' opinions regarding CALL and attempt to generalise the findings to the population of the Iranian language teachers (Creswell, 2014). It was also intended to validate data from the observation and interview through cross verification, that is a triangulation of data. This was a cross-sectional survey, and data was collected only once (Creswell, 2014). Having recruited most of the participants via LinkedIn (http://wwww.linkedin.com), the survey was also conducted online on the Qualtrics platform by sending the link to the participants on LinkedIn or via email.

The survey in this study consisted of a questionnaire, which was administered online (see Appendix 8). Findings from the analysis of the qualitative data elicited from observations and interviews, together with the theoretical perspectives in the CALL literature and consultations with experts, provided valuable input and the primary content for developing survey questions. As mentioned in Dörnyei and Taguchi (2009), questions in a questionnaire can be categorised into three types: factual, behavioural, and attitudinal. The current questionnaire included all three types and investigated who the participants were (i.e., factual questions), what they did in terms of pedagogy (i.e., behavioural questions), and what they thought about the subject under investigation (i.e., attitudinal questions). The majority of the questions were closed-ended, however, in some cases, respondents could choose to express their own short answers (See Appendix 8). The reason for using closed-ended questions was to minimise the participants' reluctance to answer the questions, as open-ended

ones usually discourage individuals from attending to all the items (Dörnyei & Taguchi, 2009).

As the first step, a pool of 83 questions was developed. These questions were then reviewed and analysed in consultation with a panel of experts to eliminate semantically redundant or thematically irrelevant items. Every attempt was made to restrict the length of the questionnaire, as it is advised that longer questionnaires could be counterproductive, and respondents may lose interest after a while (Dörnyei & Taguchi, 2009). Accordingly, 12 questions were eliminated at this stage, resulting in 71 questions.

Next, the questionnaire was piloted by 12 motivated respondents to receive feedback on the overall structure, content and clarity of the instructions (i.e., wording). Dörnyei and Taguchi (2009) emphasised that the actual wording of the questions and items could have a significant impact on respondents' thoughts and behaviour. It was also aimed to measure the time needed for the respondents to complete the questionnaire. A group of 12 respondents, similar to the target sample, were invited to answer the questionnaire, and provide feedback, in a written form, on the following criteria:

- Time spent on the questionnaire
- Number of the questions
- The overall appearance and the order of the questions
- Clarity/ambiguity of the instructions and wording
- The necessity for adding new items

The results of the initial piloting revealed that the average time spent on answering the 71 questions was approximately 36 minutes, ranging from 30 minutes to 45 minutes. As advised by the experts (Dörnyei & Taguchi, 2009), the initial aim was to keep the

questionnaire completion time between 20 and 25 minutes. Thus, the need to reduce the number of questions became apparent.

Respondents also unanimously commented that the number of questions was too many. They also identified several questions that, in their opinions, were ambiguous. In addition, the rearrangement of several questions was suggested. After receiving the invaluable feedback and comments from the 12 respondents, and conducting a brainstorming session with a panel of experts, the number of questions was reduced to 58. By reducing the number of the questions, as well as minimising the word count of the questions and responses, it was hoped that the future respondents would be able to complete the questionnaire in less than 25 minutes. All the above steps helped to establish the content validity and face validity of the questionnaire (Black & Champion, 1976).

3.5. Procedure

3.5.1. Ethics

The journey began with seeking ethics approval from the Tasmanian Human Research Ethics Committee (HREC). In this application, issues related to participants' characteristics and number, recruitment process, data collection instruments and procedures were reported to the committee. This document also presented an overview of the research project, including the significance of the study and review of the related literature. The application was thoroughly reviewed by the committee, and constructive feedback was provided, including requests for making a few modifications. After making the recommended modifications, the ethics committee approved the application, allowing the data collection to begin.

After that, PLSs were contacted to seek permissions for recruitment of potential participants and the collection of data. After permission was sought from the schools'

administrators, the researcher visited the schools and presented the potential participants with information sheets (see Appendix 1) and consent forms (see Appendix 2). These forms provided the participants with the necessary information that their participation was voluntary, and they could withdraw from the study at any stage during the data collection. They were also assured that their identities would remain anonymous, and the data will be reported using pseudonyms. Afterwards, participants were recruited and time for data collection, observation and interview, was arranged with them. Finally, all the participants were informed that the results of the study would be reported to them.

3.5.2 Data collection

After careful development of the instruments and obtaining ethics approval, as discussed earlier in this chapter, the data collection commenced in two stages for qualitative and quantitative data. As the study adopted an exploratory mixed methods design, the qualitative data were collected first, followed by the quantitative data.

3.5.2.1 Qualitative Phase

Data collection began with classroom observations. For this purpose, necessary arrangements were made with school administrators and teachers, and permissions were sought. In this stage, the researcher took part, as a nonparticipant, in the eight classrooms randomly chosen in the four identified PLSs, and observed and noted the teachers' use of technology in their practices. As the focus was on the teachers' use of technology for facilitating the learning of a new language, which in this case was English, the observations included a predesigned observational protocol (see Appendix 3) to inform the direction and boundary for recording notes. The aim was to take note of teachers' practices, and later on, compare the results to their responses in the interview phase. This comparison provided the opportunity to associate teachers' ways of thinking to their class practices. In addition, during

the observation, the physical setting of the classes was noted, which provided valuable data about the study context.

The observations were conducted during the usual class hours and no modifications to time were required. Prior to the observation, the researcher was introduced to the teachers and students (Creswell, 2007). Prior to each observation, the researcher had a small talk with each teacher and together quickly reviewed the lesson plan for the day. It particularly helped the researcher to identify the topic and structure of the presentations and get an understanding of what was going to happen. As advised by Creswell (2007), it was very important to create a friendly environment for the observation, where all the participants could perform their normal activities, without feeling being under pressure or stress. The observer's position was carefully selected in each class to minimise the possibility of interrupting the usual class practices. Each observation lasted approximately 90 minutes, equal to the duration of the class. In the end, participants were thanked and informed "of the use of the data and their accessibility to the study" (Creswell, 2007, p.135).

By the completion of the eight classroom observations (total of 12 hours), data collection procedure continued by conducting interviews. Interviews were face-to-face, and teachers were asked open-ended questions (see Appendix 4). Interviews were conducted before or after class hours to avoid any interference with teachers' work timetable. The average time for the interview was 35 minutes. Prior to the interview, participants were asked to self-assess their knowledge of ICT (information communication technology) by responding to a short inventory, including ten items (see Appendix 4). The benefit of interviewing at this stage was to gain information about the participants' historical information, in addition to the observations conducted in the classroom. Participants were not informed of the research perspectives, as Best and Kahn (2006) point out, the interviewer

should not let the interviewees be aware of his research perspectives, since their awareness of the perspectives may result in biased responses.

The questions were designed and developed prior to the interview, but the researcher asked further related questions where more probing was needed to gain more data. The interviews were conducted in English, as the participants were proficient speakers of the language. Whenever necessary, however, some clarifications were spoken in the participants' first language (i.e., Persian). The aim of conducting interviews in English was to eliminate the need for translation, which may result in loss of some meaning during the translation process.

The entire interviews were audio recorded and then transcribed for data analysis purposes. The researcher also took notes during the interviews, which were collected and categorised for inclusion in the data analysis. At the end of the qualitative phase, data garnered from observations and interviews were analysed and interpreted to achieve certain themes and descriptions. Following the exploratory sequential mixed method of this study, the next stage built on the findings from the qualitative research, together with the themes driven from the related literature.

3.5.2.2 Quantitative Phase

The results of the qualitative phase provided themes and descriptions about how teachers, as well as students and administrators, defined their roles and scope of responsibilities in a CALL context. Based on these data, together with the review of the related literature on CALL teacher education and expert consultations, a questionnaire was developed to examine the generalisability of the findings of the first phase (i.e., qualitative) in a larger population of second language teachers in the Iranian context. After developing the questionnaire, it was piloted with a smaller population, similar to the larger target population.

Comments received from the participants in the pilot group were collected, analysed and applied to finalise the structure and content of the questionnaire. Next, participants were recruited largely by sending invitations to the potential individuals on LinkedIn (http://wwww.linkedin.com). Some other teachers were also invited to take part in the study by attending various PLSs.

The survey was conducted online, and the associated items were uploaded to the Qualtrics platform, and participants were provided with the link to the survey. Once a sufficient number of participants responded to the survey, the data were exported from Qualtrics to conduct data analysis on SPSS.

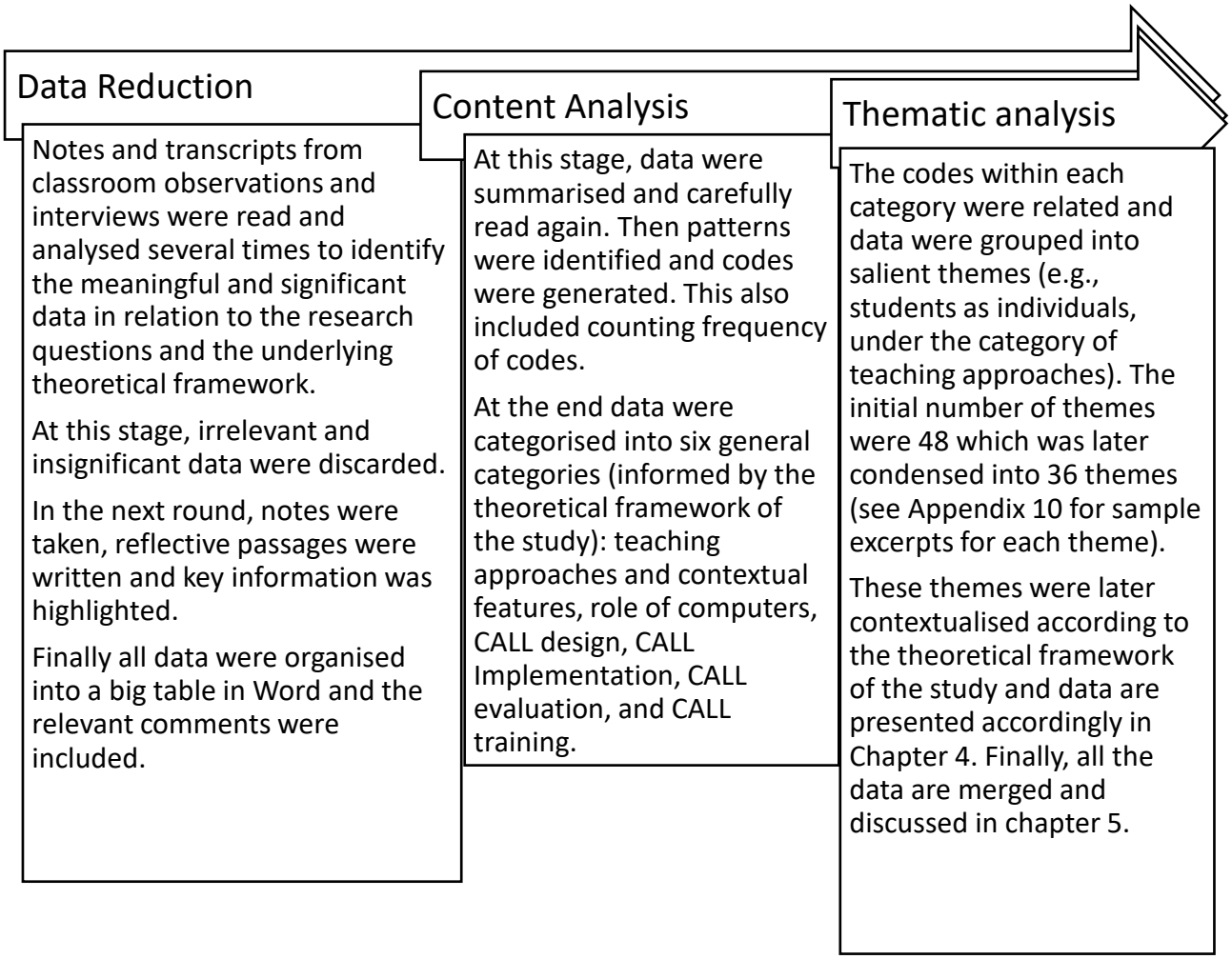
3.5.3 Data Analysis

Since this study adopted a mixed-methods approach, data gained were analysed and interpreted both qualitatively and quantitatively. The data collected in the first phase through classroom observations and interviews were analysed and interpreted qualitatively to identify and examine the emerging patterns and themes. Data were analysed and interpreted using techniques from both content (Kumar, 2011) and thematic analysis (Braun & Clarke, 2006) methods to ensure a comprehensive analysis and interpretation of data. Kumar (2011) defines 'content analysis' as "analysing the contents of interviews or observational field notes in order to identify the main themes that emerge from the responses given by your respondents or the observation notes made by you" (p. 248). Braun and Clarke (2006) use the term 'thematic analysis' and emphasise the advantages of this method for in-detail organisation and description of data.

The overall process of data analysis is depicted in Figure 3.3, which was implemented for analysing both observation and interview data. As the fluid and cyclical nature of qualitative data analysis, the process did not follow a linear mode, and all the three phases

mentioned in Figure 3.3 were repeated throughout the analysis. To further strengthen the validity of the findings, member checking, self-reflection and peer debriefing strategies were utilised. The findings are presented in the results chapter, in the form of excerpts from the participants, under the emerged themes.

Figure 3. 3 *Qualitative data analysis procedure*



The quantitative data gathered from the survey in the second phase were analysed by descriptive statistics (i.e., frequency, mean) and comparison of means (i.e., T-Test) using SPSS Statistical Analysis Software (version 22, IBM Corporation, Somers, NY). As the majority of the data in this section were in the form of numbers, the tables and figures are

presented in Chapter 4 to show and highlight the key findings. In chapter 5, all qualitative and quantitative findings are discussed together to provide answers to the research questions.

Chapter 4
Results

4.1 Introduction

This chapter presents data collected by classroom observation, interview and survey to answer the research questions stated in the previous chapter (see 3.1). The data are presented in response to the research questions 1-4. Therefore, in response to each research questions, both qualitative (i.e., observation and interview) and quantitative (i.e., survey) results are presented. Qualitative results include selected transcripts from the researcher's observation notes and interviewees' responses. Quantitative results, on the other hand, are mainly presented by statistics, using tables and figures. These data are merged, discussed and interpreted collectively in Chapter 5 to provide comprehensive answers to the research questions (see 3.1). Given this, it has been attempted to avoid discussion and interpretation of data in this chapter. The next section will begin by presenting the results with regard to the prevalent language teaching approaches and methods in the Iranian Private Language Schools (PLSs).

4.2 Language Teaching Approaches

Before investigating how technologies are integrated, it was important to understand what the prevailing language teaching approaches and methods were in this particular context, to examine the nature of technology-integration within those approaches. With the purpose of not limiting teachers to certain aspects of teaching, it was attempted to ask general questions (see Appendix 5) which could encourage teachers to address any aspects of their career based on their own experiences and perceptions of the context. In a similar vein, some teachers reported using certain techniques and methods, while they were not familiar with the technical terms and jargons to address and explain them.

Teachers identified two major and two minor teaching approaches. For the purpose of this study, approaches are named ‘major’ and ‘minor’ to differentiate between the ones followed and implemented widely throughout the teaching procedure (i.e., major), and the ones implemented intermittently for specific pedagogical purposes (i.e., minor). Two major approaches identified by the teachers were Task-based Language Teaching (TBLT) and Communicative Language Teaching (see review in 2.4.4). Although not all the teachers explicitly articulated these terms, the principles and procedures they mentioned were closely relevant to these two teaching approaches. For instance, from what Amir described, as well as observing the coursebook being taught (i.e., American English File) it could be inferred that he was referring to CLT:

> *My teaching method is actually the one that is encouraged by the coursebook here. It relies on a lot of conversation and interaction and group work among the students. Each lesson is around a particular topic and students learn the relevant vocabularies and structures.*

The results of the interviews revealed that almost all the teachers implemented TBLT and CLT as their principal teaching methods, although varying degrees were observed and reported. As referred to by teachers, in recent years, PLSs in Iran are trying to deliver language lessons tailored to students' needs, which is an integral part of CLT and TBLT methods. Mahin emphasised this point by saying that:

> *In all my adult classes, I can see that my students are seeking different goals by attending the course. I have for example students who are learning English to continue their postgraduate studies abroad, while others are learning English to understand English movies or songs better. These two groups have different goals and needs.*

The interviewees, which were from four different schools, had two points in common about their teaching: task and communication. Interviewees believed that tasks, whether real-life or pedagogical, give structure and framework to the learning process, and successful completion of the task depends on students' comprehension and processing of the target language. In other words, the accomplishment of the task indicates that the students have acquired the necessary language knowledge and skill. In this regard, tasks not only present new materials to the students but also assess their comprehension and progress. Reza explained implementing tasks in this way:

> *TBLT helps me a lot with my teaching. When I use tasks, I have a map to follow and navigate on, also my students. I mean, tasks help me to both teach the materials to the students and, at the same time, check their understanding. I also think that the materials of the book we are teaching in this school require a TBLT method.*

Despite many of the interviewees indicated that they believe in and follow TBLT, the classroom observations showed that not all of them were successfully implementing TBLT. While they were successful in focusing on negotiation of meaning, the structure and the

outcome of the tasks were not clearly defined and pursued. This signalled the existence of a gap between teachers' perceptions and practices.

Teachers identified other methods that they used less frequently. The two minor approaches identified by the teachers were Audio-lingual and Grammar Translation Approaches (see review in 2.4.2). Arash described his implementation of minor approaches in this way:

> *I sometimes use other techniques from other methods, such as the Audiolingual method for repetition and drills. And sometimes I use translation task in my classes, which might be closer to grammar-translation methods. I mean, it depends on what I want to do. It also is a matter of how students respond to my method.*

While teachers may stick to certain teaching approaches as their main way of teaching, according to Ava teaching approaches and methods could vary from one teaching moment to another and following a single approach would not address all the students' needs. In the following sections, a range of important aspects of language teaching, identified by the teachers, are presented.

4.2.1 Students as Individuals

Almost all of the teachers highlighted the importance of recognising individual differences among language learners. Arash, for example, identified age as an important factor which determines students' learning pace and engagement. He believed, in every class, some students learn quicker than others, and it is the responsibility of the teacher to provide differentiated learning opportunities for all of the students. Sima, likewise, commented, *no two students are the same, and this makes our job more difficult. You cannot expect the same level of learning or motivation from all the students.* Reza and Amir, equally, acknowledged

the need for identifying the students' interests as a group to create a learning environment which would be appealing for everyone.

Ava and Mahin similarly believed that effectiveness and practicality of teaching techniques and strategies largely depend on the learners' characteristics, which could include social (e.g., cultural background), cognitive (e.g., intelligence) and psychological (e.g., openness to interaction with others) factors. Mahin recognised language learners', particularly adult ones, prior experiences as a valuable resource to create a meaningful learning environment, where students feel comfortable to express themselves in the target language.

4.2.2 Motivation and Independent Learning

Teachers identified learners' motivation as another deciding factor which deserves careful consideration. Arash explained that the role of the teacher is not restricted to a conveyor of knowledge; rather he perceived teachers as agents, who manage the learning of the students and give them the necessary motivation and feedback in the appropriate moment. Reza implied the same conception by using the word "encouragement" and believed that *it is teacher's job to explain the goal of learning, the goal of being in that specific classroom to encourage learning among the students*. Maryam believed that adopting communicative teaching approaches contributed to enhanced motivation among learners. Navid explained how lack of motivation could hamper language learning by emphasising that learner *should feel the need for learning the language and then try to produce the language. Otherwise simple exposure to the language will not guarantee to learn.*

Another important factor for teachers was promoting independent-learning and encouraging students to take responsibilities. Arash believed that he should *scaffold them [learners] in learning experience, so they can learn on their own pace*. Ava explained:

The fact is it is tiring to always be the person who speaks in the class, that's why I would like my students to play active roles, collaborate with each other, take responsibility. It may sound strange, but I actually like the talkative students in the class more, rather than those who always keep silent.

4.2.3 The Learning Environment

Teachers made several comments regarding the learning environment in their classes in particular, and PLSs in general. In this way, they often compared their learning context in the PLSs with English and Arabic language courses offered in public schools and highlighted the differences in content and structure. One important element of the classroom environment was reported to be creating a community where students are encouraged to communicate and cooperate. Teachers placed emphasis on the nature and quality of teacher-student and student-student relationship in/outside the classroom environment. Maryam explained that:

I try to be like a friend of students in order to make a safe atmosphere for them to express themselves. I can say context plays an important role. I usually encourage my students to meet their classmates outside the classroom and make conversation in English and discover their surroundings in English.

It was interesting to find out how almost all the teachers highlighted the importance of the environment when they were asked to describe their current or ideal language teaching/learning context. The importance of this factor could be even recognised more when teachers compared the learning environment in the PLSs with the language learning classes in public schools. The dissimilarities (see discussion 5.1.1) highlight the fact that the language teaching and learning conditions in the two educational institutions in Iran vary to a large extent, and these differences result in poor or rich learning outcomes. As the teachers pointed

out, the implementation of task-based and communicative language teaching methods in the PLSs is one of the key factors for attracting language learners from different age groups.

4.2.4 Authentic Materials

It was believed that the use of authentic materials could positively impact language learners' learning in different ways. Sima believed that the use of authentic materials, indeed, *help students to see how the English language is used in real situations*. Navid perceived authentic materials as supplementary resources for the main coursebooks:

> *In addition to coursebook materials, I use authentic materials as well. The best thing about these materials is the way not only natural language but also the target culture is expressed. For example, a movie in English.*

Navid rightly highlighted the advantage of using authentic materials in exposing the students to the culture of the target language, which in some cases could be very different to the language learners' own cultural patterns and traditions. Maryam also described her use of authentic materials with a cross-cultural approach as *I sometimes ask my students to read a piece of magazine and then summarise it, or sometimes I ask them to culturally compare what they have read with their own context.*

Although the use of authentic materials was perceived as advantageous by several teachers, Amir emphasised the need for careful selection of these materials in relation to students' level of language proficiency:

> *It's good to have authentic materials; I mean how language is exactly used in English speaking countries unless students can't comprehend. But usually, after the intermediate level, they have enough competencies to benefit from authentic language.*

4.2.5 Feedback and Error Tolerance

Another key factor in language learning for Arash, who had 13 years of teaching experience, was the provision of feedback, supported by teacher or peers. For him, the provision of feedback to students was a crucial part of a teacher's role:

> *This is feedback that let the learners know whether they have learnt a specific unit or they need to correct something or study again. . . . Without receiving feedback from the teacher or other students, they will have no idea about their learning progress. And it is very important for the teacher to know the appropriate time and amount of feedback. Sometimes too much feedback can discourage students, or feedback in an inappropriate time may hinder their progress.*

Maryam also believed that *students these days can learn English everywhere, listen to music, watch movies and … but what they need after is feedback to tell them where they are and how well they are doing*. Ava explained how she promotes peer-feedback among the students:

> *I ask them [students] to give feedback to easch other and ask questions. I think a key advantage of learning a language in a group is receiving feedback from others, to feel positive about what you know, and try to learn what you don't.*

When students make mistakes or errors, teachers tend to provide them with feedback using different strategies, either direct or indirect. Mahin voiced that *making mistakes is part of learning and it shouldn't be perceived as a failure*. Navid believed that fear of making mistakes discourages many students from producing language:

I invite them [students] to talk in English with me or with their friends, no matter if they make many mistakes or errors. It is important to give them the confidence to speak and even learn from their mistakes.

While the majority of the teachers reported high levels of error-tolerance, Ava, who was an admirer of certain aspects of Audio-lingual method, believed that *when you learn a language with repeating, you cannot make mistakes*. She continued *when students want to speak, they are trying to translate from Persian to English, and when they are translating, they might make thousands of mistakes*. She believed one way to prevent making mistakes was to encourage students to memorise and repeat chunks of the target language,

4.2.6 Time Constraint

In this part of the study teachers mainly reported on what approaches and methods worked in their teaching context, however, many of them pointed out the existence of time constraints that could impose limitations on their practices, as well as students learning progress. Amir, for example, explained:

The class time is very limited. In 90 minutes, you cannot do much, except providing students with the right learning pathways and resources so they can continue learning after class. That's why in class, I try to give my students time to communicate and give them feedback to manage their learning.

Amir believed that limited class time should be devoted to practice and feedback and encouraging students to continue learning after class time. Maryam also pointed out that *it is important for us to make good use of time in the class because there is not enough time to work individually with each student. Especially when you have a big class*. It was a common view among the interviewees that time limitations impose restrictions on their plans and

desired ways of teaching. They reported, however, using various strategies to make the best use of the time available to them.

4.2.7 Survey Results

Having reviewed the interview results, this section reports on the survey results about the participants' perceptions of the prevalent teaching approaches and methods in their context. In response to the question" What is/are the main language teaching method(s)/approach(es) that you follow?", the following results were obtained, as shown in Table 4.1. The total number of respondents to this question was 140, and they were allowed to choose more than one response.

Table 4. 1 *Percentage frequency distribution of participants' responses to Questions 1*

	n	%
Grammar Translation Method	20	14.3
Audiolingual Method	24	17.1
Task-based Language Teaching (TBLT)	48	34.3
Communicative Language Teaching (CLT)	76	54.3
The Natural Approach	10	7.1
Total Physical Response (TPR)	18	12.9
Personal Methods	60	49
No Methods	14	10
Other	8	5.7

As demonstrated in Table 4.1, the most prevalent teaching method among the teachers was communicative language teaching (CLT). Participants also identified task-based language teaching (TBLT) as the second most popular method. These result match the earlier results from the interviews. Many teachers (n=60), however, reported following their own methods of teaching as well. This aligns with the previous results, where interviewees noted

that teachers tend to shift from one method to another to address the classroom needs, which eventually helps them to build their own personal teaching methods. On the other hand, a small number of teachers reported not following any particular method. In response to the 'other' item, teachers mentioned following eclectic approaches, where they used various practices from different methods. Another participant commented that she follows different methods depending on the proficiency and age levels of the students.

4.2.8 Observation Results

The content and thematic analyses of the data from the observations resulted in the following emerged themes:

- The social environment of the classroom
- Principal language teaching methods and teachers' roles
- Infrastructure and the available technological tools
- Use of technologies in language teaching
- Students' engagement in technology use
- The shifting roles of Mobile phones in language learning
- Language learning beyond classroom

As this section focuses on the results regarding the language teaching methods in the Iranian PLSs, only the first two themes are explained here. The remaining themes will be described in the following sections (see 4.4).

4.2.8.1 The Social Environment of the Classroom

Close attention was given to the classroom environment, due to its importance not only as a learning space but also a social environment where language learners interact with each other to achieve particular goals (Tudor, 2001). Likewise, teachers' behaviours are

shaped in this social environment, and their roles and responsibilities are defined within their teaching context. This explains the importance of having a comprehensive understanding of the context when we study and interpret the student/teachers' behaviours within that context.

The number of students in each classroom ranged between six (the smallest) and 14 (the largest). In almost all the classrooms, except one, chairs were set up in a semi-circular (also known as horseshoe) format facing the board, TV screen, and teacher's desk; the other classroom (Reza's class) was designed in a traditional rows format, consisting of three rows, so that more students (i.e., 14) fit in the limited space. The semi-circular setup allowed students to have easy access to their classmates and the teacher, which helped to establish a friendly environment where they could openly communicate with each other and pay attention to others' performance. Another advantage of this setup, in contrast to traditional rows, was that all the students were easily seen by the teacher, and no one was located in the blind spot. Students also could easily reach the learning resources such as the TV and the illustrations on the walls. Use of tablet arm chairs made it convenient to change the classroom setup for pair and group works. Arash, who had 12 students, asked his students to redesign the chairs' setting for the last 30 minutes of the class to shapes groups of four and work on the grammar exercises introduced to them. As it is noted in the observation form "*two of the students objected the new setting as they could not see the board and projected pictures easily*". This appeared to show how important it was for the students not to lose view of the projected information.

In several classes both teachers and students had English nicknames, so they called each other with first names, which had created a friendly atmosphere in the classroom environment, eliminating the common teacher-student power distance in the Iranian context. Another contributing factor to the intimate environment appeared to be the teachers' relatively young age range, which was between 18 and 30, except one who was aged 31-40

(Arash). This lack of age gap between students and teachers helped to create a non-threating environment where everybody could have their say and take risks. It was observed that teachers did not adopt authoritative approaches for their roles, which was later explained by Ava in the interview that *I like to be next to the students, rather than being in front of them*.

All the classes were run for 90 minutes in the evening time, between 16:00 and 21:00, which is a common working hour for most of the PLSs in Iran. The reason is that the majority of the language learners study at school/university or work during the day, and they prefer taking language classes in the evening. Five of the classes (Sima, Maryam, Reza, Mahin and Amir) were held three days a week, giving students four and a half hours of language learning time weekly. The other three classes (Arash, Ava and Navid), however, were held only two days, adding up to three hours of in-class English language instruction each week. It was also noted that teachers had a 15-minutes break time between their classes (usually three per day), which they sometimes used for planning and preparation for the next class. In addition, many of the teachers in this observation had classes at the different language level (beginner, intermediate and advanced), with students of varying age groups. Thus, they needed to have different plans and resources for each individual class, within the limited time available to them. See Appendix 9 for two examples from two intermediate level classes, which illustrate how the class time was planned and spent.

4.2.8.2 Principal Language Teaching Methods and Teachers' Roles

Teachers' performance was observed to understand the common language teaching methods and techniques employed in their context. Another focal point was to ascertain how available technologies were used for language teaching/learning purposes. Hence, observation results in this section are presented holistically, rather than reporting on each teacher's practices one by one.

After recording, analysing and comparing teachers' practices, frequent use of particular teaching techniques was observed. Accordingly, the results suggested that they were primarily following principles of the two popular teaching methods, namely communicative language teaching (CLT) and task-based language teaching (TBLT). These two teaching approaches are described in the literature review chapter (2.4.2). Teachers demonstrated the following practices, which strongly represent the principles of CLT and TBLT approaches and methods:

- *Extensive communication in the target language and occasional use of L1:* students were encouraged to communicate in English, given the fact that classes observed in this study were at upper-intermediate and advanced levels and the students had a good command of English language. The Persian language was sporadically used by the students to either compensate for their lack of knowledge of a certain vocabulary or tell a joke which would not be as funny if it was expressed in English. Having English nicknames in most of the classes was another example of an only-target-language policy.
- *Focus on meaning, and inductive teaching of grammar:* infrequent examples of deductive or explicit teaching of grammar was observed, however, when students appealed for help or demonstrated lack of understanding, teachers provided them with relevant explanations. Grammar was generally discussed within the conversational examples from the coursebook. Grammar exercises, however, were implemented to assess students' comprehension of syntax. Therefore, a great emphasis was put on the meaning and function of the target language.
- *Delayed error correction:* although several examples of idiosyncrasies were observed in the students' language, teachers usually tended to ignore them not to interrupt the students flow of speaking, and in some cases, they provided delayed feedback. Teachers employed more indirect methods of error correction, such as repetition and recast (by highlighting the place of error using a pause or rising intonation). In Ava's class, for example, one of

the students tried to use a double comparative by saying 'the older we get, we have the less energy", which was corrected by Ava saying, "I agree, the older we get, the less energy we have".

- *Use of authentic materials:* there were several examples of using authentic materials in various forms of videos (e.g., interviews and documentaries), readings (e.g., newspapers), and audios (e.g., songs). These materials were generally used as complementary resources to the focal content in the coursebook.
- *Inclusion of learners' personal experiences:* it was frequently observed that students were encouraged to share their personal experiences and knowledge in relation to the topics being discussed. In Amir's class, for example, students related to the topic under discussion (tourism) by sharing photos on their smartphones about their past trips.
- *Independent learning and problem-solving tasks were encouraged:* teachers encouraged students to take responsibilities for their learning by, for example, looking up the meaning of the new words in the digital dictionaries on their smartphones rather than simply asking the teacher. This example similarly highlights technology's significant role in promoting independent learning.

Overall, it was observed that students were encouraged to take risks and use communication strategies such as code-switching to maintain the flow of communication and achieve the intended learning outcomes. Students were given plenty of opportunities to speak and share their opinions, while teachers as facilitators, intervened when the flow of the conversation was broken due to the students' lack of knowledge at some points. Teachers also encouraged self- and peer-correction among the students to enhance their independent learning skills. While grammatical errors were generally tolerated or corrected later, a great emphasis was put on the correct pronunciation of words, following the American English pronunciation guidelines. Several cases of group works were observed where students communicated and worked together, following the instructions given by the teacher.

Finally, coursebooks were the main teaching material, and teachers had to complete teaching certain amount of book each session as outlined in the lesson plans and curricula, however, they were not obliged to cover all the exercises in the book, and they could replace them with similar tasks, as long as the same topic was covered. Covering the book material was important because all the schools followed language learning curricula designed by either Oxford University or Longman Pearson and at each level, students were required to achieve a certain level of language competency in grammar, vocabulary, and pronunciation to be able to pass the relevant formative and summative assessments to acquire certificates. Out of four schools in this study, three of them used American English File books (published by Oxford University Press), and the other one implemented Cutting-Edge books (published by Longman Pearson).

4.2.9 Summary

Overall, the results revealed that the prevalent language teaching/learning approaches among the Iranian teachers in the PLSs were task-based language teaching and communicative language teaching. These results show that the teachers believed more in the teaching approaches that create an appropriate environment for students to communicate and perform tasks in the target language; whether by following a particular established method or their own ways of teaching. Teachers also demonstrated to be competent in language teaching by employing various methods and practices.

The results also revealed the existence of varying language teaching approaches between the PLSs and public schools, with the latter following more traditional grammar and vocabulary memorisation methods. Therefore, PLSs are the first choice for many people to learn a new language in a fun and non-threating environment, where they could develop communicative skills in the target language. Important aspects of the language learning

experience included learning motivation, individualised learning, communicative learning environment, error tolerance, and the use of authentic materials. Teachers also perceived time-constraint as a barrier which does not allow them to engage in various practices. For discussion see section 5.1.1.

4.3 How do Iranian EFL teachers understand their roles and responsibilities with regard to CALL?

To answer this research question, a range of data were collected by conducting interviews, observations and survey. This section will start by presenting the result regarding teachers' perspectives on the role of technology in language teaching and learning in the Iranian PLSs.

4.3.1 Role of Technology

In this section, teachers' responses to the second part of the interview questions are presented, as well as the results obtained from the survey questions. The interview questions (see Appendix 5) mainly revolved around the notion of integration of new technologies into language teaching and learning, and how this integration might impact language teaching/learning in general and the conventional roles of the teachers in particular.

4.3.1.1 Increasing Role of Technology

Analysis of the interview data revealed that the majority emphasised the increasing role of technology, not only in the education sector but also in people's everyday lives. This increase was mostly attributed to the growing popularity of smartphones, together with enhanced access to the Internet in the Iranian context. Same patterns were observed in the classroom observation phase, where the majority of the students owned smartphones with access to the Internet via WiFi or cellular data. On this subject, Navid commented:

Well, you know, we have Internet in all aspects of our lives, and now it is an inseparable part of our lives. So, not only education but also other sciences need to maintain their link with the newest technologies. And language learning is the same.

Mahin expanded on this point, saying:

> *Looking at the changes that have occurred within the last few decades, it is no longer possible to imagine working without using information technology. It was not until recently that when people don't know something they just say 'google' it. This means technology is finding its way to our lives, including education system, even without our purposeful planning.*

Mahin stated that an interesting aspect of technology integration is its being seamless. As she put it, technology is a normalised part of our daily activities, and sometimes there is no other way to act, unless using a type of technology. In the case of language learning, this could refer to basic technological tools such as CD players that are needed to perform, for instance, a listening task. Amir, likewise, believed that students are using technologies for different tasks outside the class, and it might be their expectations to have a technology-integrated language learning system as well. For Reza, exposure to the new technology was perceived to be a challenging experience, but he commented, *when I understand the basic functions of the tools, they start to become invisible and very natural part of my job.* He also described how teachers used to be the primary source for students to ask questions about vocabulary, where nowadays almost every student has a smartphone providing instant access to digital dictionaries, eliminating the need for asking every single question from teachers.

Other teachers perceived bigger roles for technology. Ava, for instance, believed that *technology is an unavoidable tool for teaching that will continue to develop teaching methods and techniques and offers a versatile accessible environment for students*. She believed that technology would not be simply part of teaching, but it will impact the teaching itself, which means the teacher's job will be influenced by technology too.

Ava noted that technologies create greater opportunities for people to negotiate meaning not only by verbal means but also by ideograms (emoji), images, sounds and videos

on Social Media platforms. From a teaching perspective, Ava also appreciated the fact that students usually have their mobile phones with them, and it provides teachers with great access to the students. She further explained *if you [teacher] ask them to do something using their phone, they have no excuse to say they have forgotten" as they usually carry that device with themselves*.

Maryam and Sima also agreed that different technologies are being used more and more every day, with smartphones as the most widespread tools that exist in the classroom environment. Maryam referred to a particular communication style among the students, where they chat with their friends on their mobile phones, via different apps, in Persian (or Farsi), but with the English alphabet. This kind of typing which is known as 'Finglish" in Iran has been very popular among people, especially younger generations, and they find it as a quicker way to type, in comparison to Persian alphabet. An example of Finglish is "Salam, Khubi?" which means "Hi, how are you?". Maryam believed that using Finglish has helped many beginner students to have sound knowledge of English Alphabet, which ultimately facilitates their English language learning. She warned, however, writing in Finglish may have negative impacts on their spelling skills both in English and Persian languages.

Maryam also remarked that the default language of the technological tools that she and most people use are in English, especially the language of computer's operating system, such as Windows. Operating technological tools in English indicates how people have basic familiarity with a range of vocabularies used in computer or smartphones systems (e.g., new, copy, paste, delete, add, properties, etc.). Knowing these vocabularies, although very limited range, could significantly help beginner language learners with their learning. In talking about smartphones, Arash noted that *mobile phones, help students to learn the target language by engaging in authentic tasks if they are used properly, both in terms of amount*

and content. Arash reminded that the decisions and plans that a teacher makes for the use of smartphones within the structure of the class instruction determine its failure or success.

4.3.1.2 Tools or Tutors

Interviewees were asked to identify if they perceive technologies as tutors or tools; a distinction informed by Levy's (1997) study. All the eight interviewees perceived technology as a tool rather than tutor, although they had varying opinions about the potential uses of it. In other words, a great emphasis was put on the presence of the teacher as the stimulating force who motivates and guides student' learning. Aligned with perceiving technology as a tool, participants emphasised the importance of the teacher's presence, conceptualising various roles and responsibilities. Arash noted that:

> *I think teacher's presence makes a big difference. People come from all sorts of backgrounds, and they have been taught in traditional classes, and they have a traditional mindset, and basically, they have problems with autonomy, independence and managing themselves and their time and organising their learning…. [and how about] If there is not someone to give them feedback. Cause you cannot get good feedback for your writing and speaking skills [from computers]*.

Arash explained how students have certain learning needs and habits, rooted in traditional pedagogical systems prevalent in Iran for many years, which could be noticed and supported by a teacher who is familiar with that specific learning context. Moreover, the teacher is seen as the encouraging factor for learning, and teachers' absence may negatively affect learners' motivation for learning. For Sima, likewise, teachers have greater potentiality in comparison to computers for modifying lessons according to the learners' levels and immediate needs. She believed that one important role of the teacher is to adapt to the situation of the classroom and try to understand the diversity of the needs of various students.

She also believed computers have their own potentialities (e.g., unlimited repetition) to help students with varying needs.

Maryam pictured teacher as a guide, saying *what the teacher does is not only teaching but also guiding students and answer their on-the-spot questions which are never predictable*. Ava also perceived teachers as guides and commented *the teacher's presence is crucial because no matter how well-designed CALL task is, there is a need for a teacher to actively monitor and guide learners*.

Navid highlighted the humanistic aspect of language learning and commented that language learning could be difficult to achieve without experiencing human interaction with the teacher or other students. Mahin expanded on this point, saying "*there should be a teacher to plan and manage the learning. Provide moral guidance and appropriate comments. Help students throughout the language learning journey*". She believed that the teacher could help the students throughout their language learning journey and provide the necessary support whenever needed.

From the above responses and comments, it could be concluded that teachers are perceived not only as the managers of learning who guide and scaffold students' learning but also as sources of inspiration to students that encourage them to continue their studies and overcome the learning difficulties and barriers. Despite teachers' crucial roles in teaching and learning, it was believed that technologies can yet complement teachers' job and allow them to enact more effective teaching.

4.3.1.3 Supplementary Role of Technology

The primary use of technologies in the Iranian PLSs, as reported by the interviewees, was for presenting authentic materials to the language learners. Teachers used CD/DVD players, computers and Internet-based materials, websites, for example, to present authentic

listening tracks, songs, movies, and reading texts in the target language. That means the coursebooks were not the only teaching materials used by the teachers, and they used technological tools, like tablets, to extend their teaching practices beyond the coursebook. Arash summarised his use of technologies in this way:

> *Computers can help the students to get input and could be medium for students to produce output. For example, on Moodle, students post their writings and sometimes their speaking and conversations with each other. So, computers can help students get input and produce output.*

This teacher pointed out the fact that computers create greater opportunities for the students to receive and produce an adequate amount of content in the target language. He also expressed the multimodality of the students' produced language using Moodle, a free, open-source learning management system. Navid perceived technology as a tool that could create more learning opportunities, however, it does not impact the traditional teaching methods a lot: *It [technology] doesn't really change the traditional teaching methods very much. But it boosts the learning environment. Provides more ways to learn.*

There was a consensus among the teachers that technology provides non-native teachers with necessary tools to compensate for the lack of content knowledge in certain areas of the target language, especially lexical and phonological aspects. Reza even acknowledged the potential superiority of technology by saying *it can explain some parts even better than I do. Technology also brings a lot of variety to the class*. On the other hand, he suggested that teaching can occur without using a single digital technology. He emphasised, however, technology *can give students better learning opportunities with various tasks and activities*. Likewise, Ava commented that *I think technology has the potential to help language teaching if [we] see it as a support, not something that can replace*

teacher; teacher and technology together make effective teaching. She also noted that new technologies enhance teachers access to resources in the target language, and given this, use of technology seemed necessary to accelerate teaching and learning processes.

Amir believed that technologies like smartphones which are connected to the Internet could answer many questions for the students, which previously needed to be responded by the teacher. He commented *as we go further, students ask less vocabulary question; they look up new words on the digital dictionaries installed on their mobile phones*. Amir perceived this change as a positive sign and thought this could facilitate teachers' job by providing them with more time to allocate to other practice-oriented activities.

Mahin had a similar perspective, commenting *I would say maybe [technology brings] less pressure on teacher content-wise. I am [a] non-native teacher, so I don't know everything about the English language. But the Internet allows me to quickly look for information and transfer those to my students*. Overall, it could be seen that while some teachers perceived technologies as supplementary tools, others believed that they could have complementary roles too.

4.3.1.4 Facilitation of Individualised and Extended Learning

A common view amongst the interviewees was that technology has the potentiality to facilitate individualised learning among the students. Ava stated that access to online resources helps students to manage and customise their learning by looking for information that is interesting for them. She believed that it makes learning more relevant to the students. Reza also described how some teaching practices like listening exercises are easier to manipulate with the new technologies such as tablets to help students with different learning pace to benefit from the tasks. He commented:

New tools allow us to have more control on playing listening files. I can play tracks with variable pace and let all the students understand what is being said. I also can easily repeat the parts that students need to focus more on.

For Amir, the best aspect of the use of technology was enabling him to accommodate a range of learning styles at both language input and output levels. He provided the example when students prepare PowerPoint slides for their classroom presentations, and explained that this tool allows the student to express themselves not only verbally but also visually by including images, sounds or videos to their presentations. He believed that technology makes language learning more interesting, and it is the way that most students would prefer to learn.

Sima addressed another aspect of technology as the element of fun and excitement. She believed it would be boring for both teachers and learners to have a textbook as the only teaching/learning resource. Maryam also agreed on this point, saying *I see how excited my students are when we work on websites like Speechace [for speaking and pronunciation]*. Mahin, likewise, believed that there are many websites that could make her class more interesting and fun by employing a variety of activities which would suit each student's preferred way of learning.

Technology was perceived as a tool which helps teachers to overcome some classroom-related barriers, such as time constraint, and encourage students to continue the contact with the target language after school. Time constraint appeared to be one of the main concerns of the teachers, and they believed technology could help them to overcome this barrier to some extent. They perceived technology as an asset to promote individualised and independent learning among the students. Maryam, for example, said she sometimes introduces new apps to the students, not as an integral part of the syllabus, but as a

supplementary tool to encourage passionate students to continue independent learning on their own times.

4.3.1.5 Feedback

While some teachers perceived technology-enhanced feedback as a useful strategy, others doubted its effectiveness. Without mentioning the name of the tool, Maryam reported benefiting from technology for dynamic assessment, and she found it very helpful to provide students with constant feedback in this way. Amir also described his positive experience in this way (which could be an example of using computers as tutors):

> *In my experience, the feedback that students received about their speaking skills was amazing. When the students listened to their own speaking, they understood what the major problems are and began to point them out themselves.*

While Maryam and Amir shared their positive attitudes towards technology-enhanced feedback, Mahin, Ava, and Arash believed that the feedback received from a teacher is more meaningful and relevant to the needs of the students. Mahin believed that students need various amount and type of feedback at different stages of their learning, which could be best provided by a teacher who is aware of his/her students' learning background. She believed the computer does not have enough information about the students to provide them with the best feedback. Arash felt that technologies are not capable of providing constructive feedback on writing and speaking skills. Ava, who was learning French herself using online resources, also believed that computers have some limitations in providing the best feedback:

> *In this way [learning from YouTube videos) you may not be able to ask your questions, or when you make mistakes there is no one to correct you and give feedback in a way that helps the learner to learn, not simply show the mistake"*.

From these different ideas about the technology-enhanced feedback, it appears that the quality of feedback largely depends on the type of learning, as well as the type of language skill (e.g., writing or speaking). This view surfaced mainly in what respects the teacher as the manager of learning, who plans and decides the use of technology in a way that the most successful outcomes could be achieved.

4.3.1.6 Unexploited Potentials of Technologies

There was a common sense among the interviewees that technologies have unexploited potentialities for language learning and teaching. Maryam felt that there are many applications of various technologies in language teaching/learning that she is not aware of but is interested to learn and implement to become a more effective teacher. Ava also admitted not benefiting from technology to its potential; commenting *technology is everywhere, everyone has a smartphone, access to the Internet. I think we are missing the learning opportunities that technology holds*. Likewise, Navid expressed his willingness to benefit more from technology, saying *technology provides unlimited resources on the internet for language learning, which I need to select from and use in my class*.

Reza referred to communicative features of the social media tools (e.g., Telegram) and their potential use for enhancing communication in the target language among the language learners. Despite appreciating these potentialities, teachers reported the existence of barriers mostly related to institutional and training aspects.

4.3.1.7 Drawbacks of Technology

In response to the questions about the role of technology in second/foreign language teaching/learning, participants reported several positive implications. They, however, commented about the potential drawbacks of technology-integration. Reza shared his experience of being threatened by the integration of technology into his classroom:

I support students' use of their smartphones in the classroom. Sometimes as a task, I ask them to look for some information related to the subject we are studying. Sometimes, the information they find is way beyond my current knowledge of the content. For some students, this gap does not seem natural, and they begin to have negative thoughts about me.

Reza's experience, as a non-native speaker, provided an example of how technology in some cases can replace the role of the teacher as the conveyer of content and reduce the students' dependency on the teacher's knowledge. In a similar vein, Reza perceived this phenomenon as a threat to his authority. As reported by the participants, in the Iranian context, the authority of the teacher plays an important role in the teacher's overall management of the class. It was witnessed that the use of technology could both threaten and strengthen the authority of the teacher, depending on the quality and quantity of the teacher's interaction with technology. In the case of Reza, he perceived technology as a threatening tool to his authority, where the knowledge of the teacher was possibly questioned. When other teachers were asked about this situation, they had varying responses. While for some teachers, this phenomenon was threatening, it was perceived as helpful for others. Arash, for instance, believed that it is the teacher's responsibility to be able to manage every moment of his or her classroom and make the best use of the available materials. He argued that teachers and students could build new knowledge together in a reciprocal way.

Another common view among the interviewees was that teachers have greater potentiality in modifying lessons according to learners' immediate performance indicators and needs. They believed a competent teacher has a range of strategies under his/her belt to benefit from based on the necessary teaching moment; to add, delete or modify a learning unit. Sima, for example, argued that in-the-moment teaching and making informative

spontaneous decisions are among the integral elements of a teacher's job, as what usually happens in the classroom is not exactly as what was planned earlier.

Amir commented "*teacher deals with the emotions of the learners, and I don't think a computer can do this job*". Ava also believed that *the major drawback is that you cannot communicate with the teacher [on YouTube], and the interaction is quite one way*. Maryam noted that although smartphones create new learning opportunities, they sometimes could be distracting. She believed smartphones might cause students to go off the tasks and lose concentration. She advised, however, teachers need to constantly monitor students use in the classroom and set out certain ground rules and set limitations for the use of this kind of devices. She believed, otherwise, the use of technologies like smartphones *would hinder communication and cooperation among the students*.

4.3.1.8 Survey Results

In this section of the survey (see Appendix 8), teachers responded to seven questions about how they perceived their roles and that of the computer in a technology-integrated language teaching environment. Apart from the first item, the questions in this section were based on a 5-point Likert scale, ranging from *strongly disagree* to *strongly agree*. For the analysis of the Likert scale results, the data were analysed by calculating the mean, median and frequencies of the responses. Data were also interpreted by adopting the top-two box scoring approach. For example, if 45% of the participants strongly agreed, and 35% somewhat agreed, the interpretation is that 80% of the respondents agreed with that item. In contrast, if 40% of the participants strongly disagreed and 20% somewhat disagreed, the interpretation is that 60% of the participants disagreed with that item. The same approach was implemented for the likelihood and yes/no questions. Participants' responses to each

individual question are presented in this section, however, a copy of the questionnaire is provided in the appendices (see Appendix 8).

In response to Question 1, "*How do you perceive the role of the computer in language teaching and learning*?" respondents were permitted to answer in their own words, in addition to choosing from the three items provided (i.e., tutor, tool, and both). Results from 140 respondents showed that the vast majority of the teachers (74.3%) perceived computers as tools, rather than tutors. Approximately one in five (18.6%), however, considered that computers could be used as either tools or tutors. Those who answered 'other', described computers as vital tools that could help teachers to facilitate learning for language learners. Another participant stated that computers are generally tools, however, in some respects, they can play the role of the tutor. None of the respondents perceived computers' roles exclusively as tutors.

Table 4.2 shows teachers' responses to Questions 2 to 7. In Question 2, the majority of the participants (75.7%) disagreed that computers could replace human teachers in the teaching process. In contrast, they believed that the role of the computer is continuously increasing, and not a single teacher strongly disagreed with this idea. In response to Question 4, approximately three-quarters of the teachers agreed that their conventional roles had undergone some changes due to the integration of technological tools. In addition to the fact that the majority of the teachers disagreed with the idea of their being replaced by machines (in Question 2), more than half also did not perceive computers as future threats to their jobs (Question 5). Nearly one in five, however, anticipated future threats coming from computers. Further inferential analysis also showed that female teachers expressed slightly stronger disagreements towards the idea that increasing use of computers in language teaching could threaten their roles as teachers in the future (see 4.7.2) When participants were asked about the computers' impact on the learners' roles, the vast majority of the teachers (81.4%) felt

that computers could help students to play more active roles. Finally, 72.8% of teachers indicated that the existence or absence of computers, indeed, could affect their teaching practices.

Table 4. 2 *Percentage frequency distribution of participants' responses to Questions 2-7 (1=strongly agree, 2= somewhat agree, 3= neither agree nor disagree, 4= somewhat disagree, 5= strongly disagree)*

					%				
		n	**Mean**	Median	1	2	3	4	5
2.	Computers can replace teachers in language teaching.	140	**4.01**	4	0	10	14.3	40	35.7
3.	The role of computer is continuously increasing in language teaching.	140	**1.6**	1	51.4	41.4	2.9	4.3	0
4.	The use of computers has changed the conventional roles of language teachers.	138	**2.14**	2	24.3	47.1	15.7	11.4	0
5.	Increasing use of computers in language teaching is a future threat for language teachers.	138	**3.68**	4	4.3	14.3	15.7	38.6	25.7
6.	CALL creates an opportunity for students to have more active roles in the learning process.	138	**1.88**	2	35.7	45.7	10	7.1	0
7.	Existence or absence of computers has no effect on my teaching practices.	140	**3.87**	4	5.7	11.4	10	35.7	37.1

The overall results indicated that the majority of the teachers acknowledged the increasing and significant role of the computers as tools, not tutors, in language teaching and learning process. They also believed that technology-enhanced tasks could increase student engagement. Despite these, they did not perceive computers as future threats, which could replace them in the future.

4.3.1.9 Summary

One vastly agreed upon point by all the participants was that computers are an integral part of people's lives in recent years, and they should be used and integrated into education as

well. This idea was supported by the argument that technology facilitates many jobs in people's everyday lives (e.g., shopping) and it could play a similar role in education, and particularly language teaching and learning.

Teachers had congruent opinions on the increasing role of computers in second/foreign language teaching and learning. The common view was that computers play the role of tools. The participants believed that, in the current Iranian context, computers do not have dramatic effects on teachers' role, because the use of technologies is still very limited. However, the teachers reported going through some minor changes in their roles, after the integration of new technologies, such as teacher authority and classroom and time management. While they reported some drawbacks for technology-integrated language instruction, all agreed that technology could enhance learning opportunities in many ways. For discussion see section 5.1.2.

4.3.2 Design and Development of CALL Materials/Tasks

In this section, teachers were asked about their perspectives on designing and developing CALL materials and tasks. They were also encouraged to share their experiences in his regard. It should be noted here that CALL materials refer to any target language content that is presented in some kind of technological platforms, such as webpage content or audio-visual materials (e.g., recordings on smartphones). CALL tasks, however, refer to language learning activities, with defined objectives, which require the use of certain technologies to achieve pre-defined objectives (Thomas& Reinders, 2010). Given this, CALL materials are more product-oriented, compared to CALL tasks, which basically concern with the process of the language learning activity. See Appendix 5 for the interview questions.

4.3.2.1 Teachers' Experiences

It was helpful to get a whole picture of what teachers had done so far, to gain information on how technology is integrated when they plan a course, a lesson, or a teaching activity. Teachers provided several examples where they had integrated the technology into their practices. Amir, for example, commented *I usually browse the net for learning materials, movies, songs; Or ESL [English as a second language] handouts which you can easily find if you google*. Mahin also reported frequent use of Internet-based materials, as well as benefiting from students' smartphones for language learning activities. She explained:

> *My students are at an advanced level, and usually, we come across many new vocabularies in the readings. What I ask students to do is they look up the meaning of new words in digital dictionaries on their phones, monolingual dictionaries preferably. This is very useful because they read other example sentences with the same word.*

It appears that Mahin found it necessary for her advanced learners to gain a deep understanding of vocabulary items at that stage of language learning. Using technologies brought in by the students (i.e., smartphones), she facilitated this deep learning via providing quick access to a range of sample sentences. It could be assumed that if they used regular (hardcopy) dictionaries, this task could take much longer time, not to mention the possibility of affording a dictionary for each student.

The technology-enhanced aspect of Reza's teaching practices included using DVDs in the classroom, as well as assigning homework for students, which required referring to certain websites. He perceived the use of authentic materials on DVDs as useful means to put language learners in a real-life target language situation, with a focus on cultural aspects. Maryam, on the other hand, benefited from technology using PowerPoint presentations as a tool to make learning more achievable for all the students with the support of multimedia.

She also reported that students in her class are required to have at least one presentation each term using PowerPoint.

A review of the last four examples demonstrates to what level, in each case, students are expected to actively use technologies to achieve the learning objectives set by their teachers. It appears that Maryam had higher expectations of her students, whereas Mahin reported using smartphones only for looking up the meaning of the new vocabularies. It should be noted, however, teachers' responses to the interview questions, do not necessarily report on all of their in-class activities. In Amir's case, for instance, while he reported his main technology use as browsing and using online learning material, it was observed during the classroom observations that he benefited from students' smartphones and data projector too.

Other teachers informed of more extensive integration of technologies into their teaching. Navid commented on his using Edmodo learning management system on one of his classes, where he uploaded some part of learning materials on this platform and required students to attend to them before class. He believed this method helped him to save a lot of time in class and focus more on practice and provision of feedback. He also encouraged students to communicate with each other on Edmodo and upload materials as instructed. In response to my follow-up question about why he uses Edmodo only in one of his classless, he responded:

> *This is the first time I'm using Edmodo. I learned about it in a workshop I attended a few months ago. I think it is very effective and interesting. My students like it. I need to try with this class first, and see how it goes. It also takes some time to set up one and manage.*

It was an interesting point that Navid was planning to gradually integrate Edmodo into his teaching, starting from one class, and maybe later, expanding to other classes, if the experience was successful. In his case, he, together with the students, generated CALL materials on Edmodo and performed a range of tasks, such as online communications. Like Navid's case, Arash commented on his experience of using Moodle, specifically for collecting, assessing, and providing feedback to students' assignments. Considering the wide range of applications of Moodle, it appeared that Arash narrowed his use of Moodle to certain features of it. While he reported infrequent use of the application, he found it very helpful, especially for assessing students' assignments in digital copies.

In another scenario, Ava had created an online group on a social networking app called Telegram, where participants could communicate and share multimedia materials online. Ava described this group as an environment where students have enhanced contact with the target language and engage in meaningful communication with their peers. She explained:

> *In this group, students chat and speak in English, they share songs [or] short videos. The friendly atmosphere of the group helps us to have a better class too. I try to be as active as I can to encourage students be active too. I think they like it, because they are usually active and share many files and chat with each other.*

Ava also reported using email and PowerPoint tools besides Telegram. It appeared that she found technologies as useful supplementary tools to enhance students' contact with the target language, however, she did not seem to have a technology-specific component in her teaching syllabus. Finally, Sima told about her experience of working in a group for developing a language learning the mobile app. Although this was the most sophisticated

example of teachers' involvement in CALL material development in this study, she and her group were working on this project as their university assignment. She described the app as:

> *Well, as I told you I am currently studying IT at university and as an assignment for one of the units I am creating an app. This app help student to listen to English songs, and as soon as the song starts to play lyrics will be shown.*

Being a language teacher with an IT background had enabled Sima to be more familiar with advanced technologies, such as programming. In the next section, it is explained why interviewees tended to use certain technologies, the way they were using.

4.3.2.2 Developer/Consumer Dichotomy

Considering CALL materials, teachers reported being more consumers than developers. They believed a range of factors hinder their engagement with material development, even though they were interested in doing so. A common view among the interviewees was that designing or developing language apps and software was far beyond their responsibilities, as they perceived themselves as language teachers, not computer programmers. Sima had a slightly different perspective on this issue, considering that she was studying IT at university and was reasonably familiar with programming language and process. She, however, believed too that it is not reasonable to expect language teachers to be app developers. She explained:

> *I am designing this app as part of my uni[versity] assignment, and it is a group of us working on it. If it was only for my class, I would not be able to do it on my own, and I'd probably choose to use available apps, rather than making one myself. Cause it needs a lot of work and time.*

Sima acknowledged the fact that it takes a lot of time to design and develop language learning apps, and it needs a group of experts to work on it, who would be financially supported. On the other hand, teachers agreed that developing other CALL materials, such as PowerPoints, which demands less ICT knowledge is within reach for language teachers, and they could play the role of developers. They also believed that at this level of technology use, students could also play active roles and create CALL materials, as reported in Ava's example, where students shared various multimedia files on their online group, many of which were generated by themselves (e.g., photos captured using their mobile phones).

In talking about the consumer perspective, Amir said that *I usually use what is available on the Internet. So, I don't need to start from scratch, and I can benefit from what is available and what is recommended by others*. He once again highlighted the existence of time constraints for them to spend extensive time on CALL material development. Maryam opposed the idea of language teachers as programmers and said:

Well, it is well beyond my expertise and role to design apps or websites. I use what is available. I am a teacher, not a programmer. But I can see how certain technology may fit my teaching practices, and help students learning.

As observed in Maryam's response, teachers perceived themselves as CALL task designers, where they can analyse the affordances of technological tools and implement them in their teaching context. Navid, who employed Edmodo in one of his classes, believed that Edmodo provides various tools to create a learning environment, but it is the teacher who needs to design tasks in a way that students can benefit from it and be willing to interact with others in that environment. Reviewing the technology use of teachers mentioned earlier in this section, it becomes apparent that they select the tools that they are familiar with (e.g., PowerPoint), and then plan its use within their teaching practices, whether for one-time use or more regular and frequent integration of that technology. One relevant question here was how

much autonomy the teachers had in designing their technology-enhanced tasks. Next section will report on the responses to this question.

4.3.2.3 Teachers as Decision Makers

Considering the fact that Iranian private language schools (PLSs) are usually run according to the within-school regulations and policies, it seemed important to find out teachers' positions in decision-making for the integration of new technologies. In other words, it was attempted to see how much autonomy teachers had or desired to have in selection and implementation of technological tools. In response to this question, a range of responses were elicited. Arash believed that *if the teacher is a capable one, and if the pay is really good, so the teacher should be given autonomy to design his own materials*. While seeing capability as a prerequisite to having the autonomy, Arash believes that tech-savvy teachers need additional financial appreciation. He also believed that experienced teachers might make better decisions about technology use:

> *If I am a novel teacher, I prefer following the instructions received by the school about which type of technology to use. If I am a professional and experienced teacher in CALL, I would like to have my say. So the solution is that the institute develops CALL materials and gives to the teachers to use.*

In talking of experience, Sima shared similar opinions:

> *Maybe the school knows more than the teachers. There are some teachers that are less experienced and they don't know what to do. In this way the school's choice can be better. But, every teacher has his/her own teaching method, and if they are told by the school what to do, they might not be comfortable with it.*

Mahin, on the other hand, perceived the scope of technology use as a decisive factor. She explained:

> *It depends on what I want to do. If I am using tools like digital dictionaries, I can decide when and how to use it. But if school offers a more sophisticated program, I would like to receive instruction and training.*

She believed that teachers initially need to assess the range of available tools and plan their CALL tasks according to what is available. She supported her opinion by saying:

> *Because if I plan using a new technology which is not available, I don't think school will be willing to fund me. You know, basically I am not the person who decides what tools to buy and use. But form the available tools, I can see which one can help me to achieve the teaching goals.*

Most of the teachers agreed with Mahin on that school administrators are the main decision-makers when it comes to equipping PLS with technological tools. This demonstrates a top-down decision-making process, where teachers need to adjust their teaching to imposed conditions that come from the top. Navid raised a similar concept and highlighted the importance of classroom context by saying:

> *Teachers have different conceptualisations regarding different classes. In different classes, the needs are different, and as a result, tasks should be different. That's why I think the teacher should have enough autonomy to adjust the CALL with the needs of the students.*

Maryam expressed the need for having both school and teachers in the decision-making process:

I believe neither the school nor the teachers should decide about technology integration by themselves. I believe there should be talk between teachers and the school and share ideas and then decide all together. I think not every teacher can follow his /her way without paying attention to the system of the school. Also, the school cannot force the teachers to follow a certain procedure.

Arash and Ava also emphasised the importance of group work, where all teachers get the opportunity to share their experiences of technology use and make an informed decision. Form the interviewees' responses in this section, it is concluded that teachers expect to be involved in the process of CALL material and task design and development, although they believed implementing a comprehensive plan informed by the PLS's policies and regulations would be beneficial too.

4.3.2.4 Barriers to CALL Design and Development

Despite teachers' expressing their willingness to be involved in designing technology-enhanced tasks, they addressed the existence of several barriers. They identified time limitation as the major barrier which does not allow them to spend sufficient on time selecting the appropriate technological tools, and then design the relevant tasks. This was also related to financial aspects, as Navid expressed:

Any additional time I spent on using technologies would not be paid, because it is not considered as part of my job, or something added to what they expect from me as a teacher.

Reza expanded on this saying:

The biggest barrier for me to use new technology is the time I need to discover new technologies, cause there are many tools out there now, and it is like choosing a

shirt in a big mall. Once you choose the technology, it comes to think about how to design to integrate it with my current teaching.

In addition to time and pay barriers, some interviewees explained that for many language teachers, leaving the comfort zone is equal to extra work which is not necessary, as what they are doing already meets the school needs. Arash, for example, believed that *any deviation from what normally they do and are happy to do for a long time and what they think is the right way to teach is going to be difficult for those teachers*. Ava also commented that *using a new tool for the first time is always challenging. There are many things that you are not aware of, and it probably cause you a lot of time to learn*.

Another major barrier was reported to be a heavy reliance on coursebooks. As described by the teachers, they need to cover a certain amount of coursebook each term, which takes a large part of teachers' time in the classroom. While the coursebooks contain a wide range of topics and exercises, compared to online resources, they lack the desired level of variety and modality. Teachers expressed their willingness to use more multimedia resources in their teaching, however, they criticised the limitations imposed by the coursebook-oriented instruction.

4.3.2.5 Students' Needs and Prior Knowledge

Majority of those interviewed highlighted the importance of analysing students' needs and preferences prior to CALL task design. Maryam suggested using simpler tools that students have basic familiarity with could encourage students to embrace CALL tasks. In justifying her use of PowerPoint, for example, she commented *I think they were all familiar with the application [PowerPoint]. In fact, this is why I choose PowerPoint over other apps, cause I think everybody is familiar with it*. She also commented that while some online tasks are interesting for some students, others may not feel the same, and at that point, teacher may

need to alter his/her plans. In the same way, Amir believed that not all the students have equal competency in using technologies, and thus teachers should conduct a holistic assessment of the students' ICT knowledge and skills before implementing any CALL tasks.

Reza, on the other hand, indicated that he sometimes comes up with new ideas to integrate technology, but in practice, several barriers hinder his plans. He explained one example where he had plans to use students' smartphones to implement a technology-enhanced listening task, but because not all the students had smartphones, he had to change his teaching plan. In another note, Ava highlighted the importance of receiving students' feedback and their engagement at the design level. She commented *sometimes my students have great ideas, which I have never thought of before… I can get that idea, work on it, and plan a task useful for them.*

4.3.2.6 Survey Results

This part of the survey consisted of seven questions, asking about teachers' experiences of designing and developing technology-integrated teaching materials and tasks. Question 1 in this section, asked teachers how often they personally get involved in CALL material design and development. Results showed that the majority of the teachers were not usual designers or developers of CALL materials, although one in four claimed they often or always do undertake this role. In response to the Question 2, *I ask my students to design and develop CALL materials (for example, to create a weblog),* teachers reported that they do not often require the students to get involved in CALL material design and development such as creating Weblog. Further inferential analysis also showed that male teachers encouraged more student involvement in designing and developing CALL materials (see 4.7.2)

Participants' responses to the rest of the questions (3-7) in this section are illustrated in Table 4.3 below. Data shows that almost two-thirds of teachers preferred using

commercially available technological resources, rather than creating one by themselves. This was consistent with the opinion of more than half of the teachers that programming and creating software skills are beyond language teachers' responsibilities and roles. Interesting, one in four expressed positive opinions about being teachers capable of designing and programming new software for language teaching and learning. This contrast among the teachers shows how different people have various perceptions about the same job and the responsibilities within that.

Almost one in two believed that the responsibility of developing CALL materials is for the schools, while 25.7% did not agree with this idea. These results show that teachers may have varying expectations of their schools regarding the degree of support. For the last two questions in this section, the majority of the participants had similar thoughts. The vast majority of the teachers (86.4%) believed that they could play important roles in designing and developing new CALL materials. Most of the participants (92.7%), however, agreed that teachers who design and develop CALL materials should be financially supported by their schools. It appears that if schools provide the necessary support, more teachers would be interested in getting involved in creating new technology-enhanced tasks and materials for their specific school context. This idea is discussed further in the discussion chapter, together with data from observations and interviews.

Table 4. 3 Percentage frequency distribution of participants' responses to Questions 3-7 *(1=strongly agree, 2= somewhat agree, 3= neither agree nor disagree, 4= somewhat disagree, 5= strongly disagree)*

					%				
		n	**Mean**	Median	1	2	3	4	5
3.	I prefer using commercially available technological resources, rather than creating one by myself	140	**2.38**	2	15	48.6	20	16.4	0
4.	Programming and creating software are beyond language teachers' responsibilities and roles.	140	**2.53**	2	20.7	37.1	16.4	20	5.7
5.	Developing CALL materials is the responsibility of the language schools, not teachers.	140	**2.72**	3	14.3	35	22.9	20	7.9
6.	Language teachers can play important role in designing CALL materials.	139	**1.65**	2	49.3	37.1	11.4	1.4	0
7.	Teachers who design and develop CALL materials should be financially supported by their school.	140	**1.44**	1	70	20.7	6.4	1.4	1.4

The overall results in this section highlighted the importance of teachers' roles in the stages of design and development of CALL materials, which needs the provision of support by the schools. However, as data showed, not many teachers reported their actual involvement in this process.

4.3.2.7 Summary

Results in this section provided information with regard to various aspects of teachers' roles in CALL task/material design and development. The overall results indicated that teachers were more of consumers regarding the use of commercially available CALL materials. They were, however, designers of various language learning tasks which included the use of certain technologies. While some teachers reported designing and implementing

more advanced CALL tasks, such as Edmodo, others chose to use simpler tools appropriate to the level of their own knowledge of ICT, as well as the students'. Interviewees believed that time limitations and lack of financial support are among the major barriers to allow them to engage in CALL task/material design and development as much as they would like to. They believed that decisions about equipping PLSs with new technologies and their integration into the curriculum need to be made by consulting teachers and receiving their perspectives. For discussion see section 5.2.2.

4.3.3 CALL Implementation

In this part, participants were asked several questions (see Appendix 5 & 8) about their roles and responsibilities during the implementation of CALL tasks, inside or outside the classroom. A variety of perspectives were expressed in response to these questions. Interview results are presented under the following themes.

4.3.3.1 Teacher's ICT Knowledge

Talking of technology-enhanced language instruction, one question that comes to mind is "how familiar the teacher should be with technology?". When a similar question was asked from the participants, a range of responses was elicited, which mainly supported the idea that teachers should have a fair knowledge of ICT, if they intend to implement CALL. Majority of the teachers explicitly pointed out that they need to have a wider knowledge of the technology they use, in comparison to their students. Arash, for example, commented:

> *I think if a teacher is using a certain tool, he should know more about it than the students. for example, if he is using Facebook, he should have wide knowledge about how Facebook works, and know about different features of Facebook.*

Sima expanded on this idea, saying:

> *Yes, sometimes, technology doesn't work. It happens to me a lot. If my students are too young, I am the one who needs to deal with the problems. Definitely the teacher should know more. I use a lot of YouTube videos, and it is not enough to know the website address, but also I need to know how to search for appropriate videos, how to filter my search, how to archive the useful videos for future use, etc.*

Maryam shared similar perspectives and suggested that *a teacher who is not confident about his/her technology competency, should not begin the use of technology, especially*

complicated ones. It can be inferred from Maryam's comment, as an experienced teacher, that teachers need to choose a technology appropriate to their level of ICT knowledge and skills. Otherwise, as Mahin commented, they may end up in an *awkward situation*. Mahin expanded on this idea, saying:

> *I think everyone these days knows how to use email, or word or PowerPoint. If I choose to use something more sophisticated, I'll to try to learn it before I use with my students. I think using everyday technologies like social networking tools is the best option because both me and students have basic knowledge of these tools. The important point is how to use it for language learning.*

On the other hand, Reza and Ava believed that teachers are expected to have a *medium* or *above the average* knowledge of digital technology. Ava explained:

> *Technology is part of teacher's teaching activity, and if she lacks enough knowledge of it, I think it would be awkward. But I think teacher should have a medium knowledge of technology. I mean, if I am using PowerPoint, I don't need to know every single point about this software, because I am not an IT expert. I need to know the parts of the software or any other technology, that is related to my teaching practice.*

Ava highlighted the fact that she does not perceive her role as an IT expert, but she believed that certain aspects and affordances of the technological tools could be learnt by teachers and implemented in their instructions.

Amir also believed that *having a wider knowledge [of technology] is having the upper hand for the teachers*. Navid supported this idea, commenting that *ICT knowledge is an important part of teachers' knowledge these days and if they don't have the required amount of knowledge in this subject they would not be able to make a great teacher*.

From the responses above, it could be inferred that teachers, in general, perceived high expectation of their roles regarding ICT knowledge. In other words, they believed that teachers should have wider knowledge, in comparison to the students, not only in the English language but also in the technology that they implement.

Another major problem in the implementation of CALL was reported to be the inconsistency of technology use. As Amir mentioned, teachers use technologies, such as web browsing, spontaneously at the time of need, without having predefined plans. Teachers reported using technologies often for looking up for new information or resources that could complement their teaching and address their in-the-moment needs. Accordingly, while some sessions teachers use technologies extensively, another session they may never use them. Sima also noted that teachers usually need to change their classrooms after every class and not all the classrooms necessarily have the same technologies available. Sima believed that this inconsistency could affect their planning, or at least make it more difficult for teachers to plan, as they need to design tasks based on what is available in each classroom. It appeared to be a bigger problem, as Sima commented when teachers need to have classes at different PLSs.

4.3.3.2 Technical Problems and Issues

Any use of technology usually comes with some technical problems and difficulties, especially in the educational context. Therefore, teachers were asked about their strategies for addressing these problems in the classroom environment; in other words, 'whose responsibility is to take action?' In response to this question, teachers provided various responses. Some teachers, like Arash, Maryam and Amir, believed that there should be a technician in every PLS who could be accessed at the time of need. In this regard, Arash commented *I think there should be a technical guy in every school, who can support teachers*

with immediate advice and help them to solve the problem on the spot. Amir added *having an immediate back up to keep the learners engaged is a good solution*. While these ideas sound worthwhile, recruiting additional staff as IT technicians would apparently increase PLS' costs.

Mahin explained that in her school, teachers who need technical support, usually refer to one of the teachers who is known as the *IT man*. Mahin described this teacher as someone who is interested and knowledgeable in IT and is willing to help other colleagues. Receiving technical support from one of the teaching staff eliminates the need for recruiting new staff, however, the availability and accessibility of this person may be limited. Maryam and Ava, on the other hand, believed that in the case of any technical problems, teachers need to continue with alternative plans and tasks. Ava commented:

> *If something goes wrong and I cannot solve it immediately, I put it aside, and try a continuing class by other alternatives. I think every teacher should have a plan B, specifically when using technology. If I try to solve the problem, it will take a long time, and I usually run out of time.*

Likewise, Maryam explained:

> *well, the first thing maybe is to ask the support from the school. Or maybe stop the practice and postpone for another time, and continue the lesson with other alternatives. I also try to predict the problems I might face in the classroom, and it helps me to be prepared.*

A common view among the interviewees was that the majority of today's students have a lot of technological knowledge, and some of them have a wider knowledge of ICT than their teachers. Amir noted that when students are required to use technology, for instance, create PowerPoint slides, some of them try to demonstrate their skills by creating

well-designed slides with a lot of multimedia and hyperlinks to external resources. Navid perceived technologically knowledgeable students as assets for class and believed that *it is the art of the teacher to use every source of knowledge and manage the classroom in a way that everybody shares his knowledge and expertise*. Given this capability, the majority of the teachers agreed that at the time of technical problems, they could seek support from the students and invite them to play active roles.

4.3.3.3 Technology as a Facilitator

One important question was to find out if the implementation of technology facilitates teachers' job or, the other way around, makes their job more demanding and costs them a lot of time. In response to this question, teachers responded to the following:

Sima: *It kind of makes my job easier. Because it is helping me in many ways. I can make sure that I have corrected every [digital] paper and I can reply to them faster.*

Maryam: *I would like to say it makes it more interesting. But if a teacher is not confident with technology use, I think in that case it can be time-consuming and not effective. But for a confident user of technology, it can be useful and interesting.*

Ava: *If I have enough dominance in the field [technology] it can help a lot to have better teaching. On the other hand, lack of familiarity with technology will result in losing a lot of time and it will be tiring.*

Navid: *The medium of technology I am using with this [Edmodo] class doesn't require much time. I simply upload a few materials. But It saves me a lot of time during the classroom. It required some time to set it up, but now it is very quick to upload new materials, and also respond to students' comments.*

Reza: *I think it helps me to have a better performance, if not easier. I mean, I as a teacher need to have a variety of task and plans for my class, and technology helps me to*

achieve this variety. Without that, I will have a boring class, where I am the only source of information, and student is the recipients.

Mahin: *It kind of makes my job easier. A small number of teachers acknowledge the vast potentiality of computers for language teaching. Computer's role is seen as a teaching aid, which is used sporadically, and in most cases, without any prior technology-rich lesson plan.*

Amir: *CALL can be a double-edged sword. If done properly, it can facilitate our job to a great extent; otherwise, it would just make it worse. When I started using CALL, it took me some time to get my way around it.*

A review of the above excerpts demonstrates that a common view amongst the interviewees was that technology could facilitate their job if it is implemented properly. They also acknowledged that the implementation of a new technology may take some time and effort at the beginning but could facilitate the teachers' job once it is properly integrated into their practices. While Maryam believed that technology use could make her job more interesting, Reza commented that technology could provide him with essential tools to have the desired level of variety in his class.

4.3.3.4 Teacher's Authority

Addition of a new element to every system may impact the roles, responsibilities, as well as the authority of the other elements within that system. Having assumed this, it was attempted to gather information on how the integration of new technologies into language teaching/learning could affect teacher's authority. In other words, do teachers remain as the main source of information and consultation, and ultimately the centre of attention? This question was particularly important, considering the leading role of teachers in the school

system in the Iranian context, as presented earlier in this chapter. Respondents had varying perspectives on this issue.

Mahin believed that *easy access to authentic online materials, such as movies, in the English language by the students, makes the role of the teacher less prominent in delivering new materials*. She expanded on this idea by sharing an anecdote about her own learning experience:

> *I remember when I was learning English like 15 years ago, the class was kind of the only place we had contact with the English language. I didn't have much access to English music or movies. But it is totally different today. Students listen to many English songs on their mobile phones, they watch English movies very often. I mean they already have access to authentic data. That means I need to play a different role today as compared to the past. Otherwise, yes technology can make me seem less important.*

Mahin's comment highlights the fact that today's language learners have enhanced access to materials in the target language, and they might have other expectations of their teachers, rather than simply being a source of target language input. Navid perceived this enhanced access as a positive sign, however, advised that teachers need to play the role of a guide to help students to benefit from the target language materials in online environments:

> *When, for example, students refer to the websites or they are in the virtual group they are still wondering, and the teachers are the person who needs to guide them on what to do and how to do. No matter how perfect students are with ICT, in the educational context, the teacher best knows how to use a particular technology for educational purposes. But maybe the kind of authority has been changed. I mean*

students are not passive like before, they play more roles in the learning process, and this is something positive.

The extract above shows that Navid believed that teachers are still the main players, and they have significant roles. Ava, likewise, believed that she needs to manage her use of digital devices in order to maintain her dominance as the teacher. Mahin also believed that too much reliance on technology could negatively affect teacher's authority and dominance. Maryam, on the other hand, believed that technology use could enhance teacher's authority by *making him/her able to control and manage the teaching and help students in a much better and faster way*.

Overall, these results suggest that technology would not negatively impact teacher's authority and dominance unless it is used inappropriately or excessively. A relevant question asked teachers about their responses to some students' possible negative predispositions regarding the use of technology. Majority of teachers believed that resistance toward technology could be a result of lack of experience and knowledge. Arash believed that this resistance could be broken *once students experience the tools and see the benefits*. He appreciated the fact that *introducing a new tool would be challenging for both teacher and students at the beginning*. He reminded, however, that *sometimes, resistance is not resistance to technology; it is resistance to extra homework* that could result from learning a new medium of learning. Maryam, likewise, believed that demonstrating the advantages of technology use could help to eliminate students' negative predispositions.

Amir had a relatively different opinion. He believed that *some students might think that they are missing out on valuable time with their teachers* when they are working with computers. This comment is interesting, indicating that for some students, communication

with their teachers is of great importance. Lastly, Sima added the comment that *the use of technology, is among the rules of the classroom and the students need to follow the rules*.

4.3.3.5 Outside-Classroom CALL

Several teachers commented that the use of technologies help them to access students outside the class hours and thus move some in-class activities to other times. In this regard, teachers reported using email, Telegram social networking app and Edmodo and Moodle learning management systems. As it was reported earlier in the CALL design section, as well as the results of the observations, these applications of the technology were limited, however, allowed teachers to manage limited class time completing other activities. Navid, for example, commented *I want the students to read the new materials before coming to class, so that we will have more time for practice and feedback in the class*.

Amir, on the other hand, identified using technologies in the classroom as a more effective of implementing CALL, saying:

> *I prefer to use the tasks mostly inside the classroom. Cause when I introduce technology for language learning outside the class, I am not sure if they will use it, or how they will use it. I have more monitoring during class time.*

As noticed by Amir, monitoring students' use of technology is another determining factor in the successful implementation of CALL, which requires the teacher to play the role of a monitor. Whether using technology inside or outside the classroom environment, it seems clear that integration of technology creates more learning space and allows teachers to make efficient use of limited class time.

4.3.3.6 Privacy Concerns

Some teachers articulated concerns regarding their own, as well as students', privacy in the online environment. Sima, for example, described that her students have a social media group on the Telegram app, where they exchange learning materials and ideas in English. She commented, however, that she was not a member of that group because she did not want her students to have her personal contact details. Despite not being involved in that group, she believed that running this group was beneficial for the students. Ava had a similar group with her students, but she was a member of that group and facilitated the communication among the students. Both these teachers, however, explained that due to some cultural reason, not all the students usually participate in these groups. Talking of privacy, Arash said:

> *Using technologies like social media that maybe reveal students' personal information can be tricky. That is why I need to tell them beforehand for what reason we use this tool, and what they can share. What they are not allowed to say and similar things. There are also apps or websites that are blocked by the government, and we are advised not to use them.*

These comments highlight the importance of considering privacy issues in the Iranian context, especially when the implementation of CALL contains students' use of personal information, such as mobile phone numbers. It also indicates the fact that integration of technology carries new concerns and issues for the teachers and they need to address them properly, otherwise it not only does not improve their teaching but also cause them new problems. Arash added that they need to, for instance, watch the movies before showing them in the class to make sure that the content of them comply with the regulations of the school and cultural patterns of the society. Ava also noted this point, saying that *sometimes I need to cut some parts of movies out, which will take a lot of time, or what I do usually is I skip that*

part while displaying. Both teachers agreed that spending time on these modifications is worthwhile because they believed that watching and analysing movies in the class enhance students' learning. They admitted, however, sometimes lack of time does not allow them to engage in these kinds of activities.

Another common view among several teachers was that having digital copies of students' assignments help them with the assessment. Arash, for example, said *for me working on the digital copies are much easier and useful than reading the students hand-written texts*. Arash's comment may refer to various available options on software, such as Microsoft Word, for commenting on students' work and providing them with reach feedback. It also could refer to some students' sloppy handwriting, which makes it very difficult for teachers to read and comment on them. Sima also commented *if I receive papers from my students I might lose them. But, when I receive the assignments digitally, through the internet, they won't get lost easily*. Sima's comments indicate the advantage of using technology for archiving students' works in a safe place where they could be easily categorised and retrieved. Whereas, conventionally teachers need to have various folders and files to sort out students' work, which also requires a lot of space. Digital copies also provide increased access for teachers to access students' work from home or any other location.

4.3.3.7 Survey Results

This part of the survey, which incorporated the largest number of the questions (18), investigated teachers' actual use of new technologies in their practices, and how technology affected their conventional roles inside and outside the classroom environment.

In response to Question 1, which asked teachers about their reason(s) for implementing CALL, most of those surveyed indicated that they were using new technologies according to their personal motivation and interest. Another 30% indicated that

both internal and external factors, such as the school system, encouraged them to practice CALL. Only a small minority (5.7%) answered "external factors" in response to this question. These results indicated that not many PLSs required teachers to implement CALL as a mandatory part of their roles. Despite this, teachers had their own reasons for incorporating a variety of technologies into their teaching practices (see responses to Question 3 below). These results also showed the existing gap between role definitions perceived by teachers and those defined by the PLSs authorities in regard to implementing CALL.

In response to Question 2, *roughly, what portion of the class do you dedicate to use of technological tools*, the majority of the teachers (71.3%) indicated that they spend between 25 and 50 per cent of their classroom practices using technological tools. Only a small number of teachers (5.7%) reported constant use of technologies in their teaching. Although this question could not gauge teachers' exact use of technological tools, it provides us with an approximate number which could be interpreted in relation to the results achieved from the classroom observations (see discussion chapter).

Responses to Question 3, as illustrated in Table 4.4, investigated the types of technological tools, both software and hardware, that the teachers used. Teachers were also asked to indicate the frequency of their use. The data show that tools such as CD-Players, personal computers, laptops, TVs, and the Internet are among the most frequently used tools. Among these, CD-Players were the most frequently used devices by 36.7 % of teachers reporting using them always. In contrast, more sophisticated tools such as Virtual Reality (VR) (M=4.45) and computer laboratories (M=4.30) were rarely being used. Another 15% of the teachers claimed that they never used the Internet for language teaching.

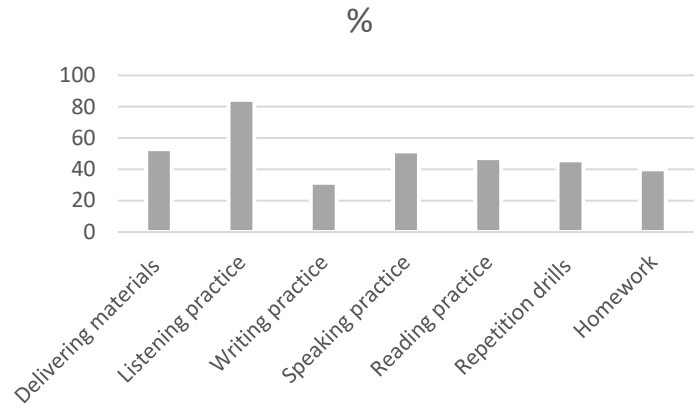
Table 4. 4 *Types and frequency of technological tools that the teachers use*

(1=always, 2= most of the time, 3= about half the time, 4= sometimes, 5= never)

	n	**Mean**	Median	%				
				1	2	3	4	5
Personal computers and related software	138	**2.80**	2	20.7	29.3	10.7	25	12.9
Laptop	138	**2.70**	2	27.1	23.6	12.1	22.9	12.9
Smartphone or tablet	140	**3.05**	3.5	18.6	19.3	12.1	38.6	11.4
Data projector	136	**3.48**	4	10	18.6	11.4	29.3	27.9
Large screens	135	**3.56**	4	11.4	12.9	10	34.3	27.9
Internet	139	**3.04**	4	20.7	20	8.6	35	15
Social networking tools	135	**3.45**	4	11.4	14.3	12.9	35	22.9
Virtual Reality (VR)	139	**4.45**	5	0	0.7	5.7	18.7	74.1
CD-Players	140	**2.69**	3	36.7	18.6	14.3	18.3	12.1
Television	139	**2.78**	2	25.7	26.4	12.1	13.6	21.4
Computer laboratory	139	**4.30**	5	1.4	5.7	10	26.4	55.7

Question 4 investigated for what purposes teachers used technology. The results showed that technologies are mostly used for conducting listening practices, delivering materials, and speaking practices. Writing skills had the least use of technologies.

Figure 4. 1 *What purposes teachers use technology for?*



In response to Question 5, participants reported that they usually use technologies for the practices inside the classroom or a combination of in-class and out-of-class practices. Not many teachers (11.4 %) used technologies solely for out-of-class purposes. In response to Question 6, 'How do you assess the current availability of technological tools in your school?' a range of responses was elicited. Although roughly one in four believed that their schools were equipped with sufficient tools, one-third of respondents gave average scores to their schools' technological infrastructure. However, 40% of teachers were not happy with the available technologies.

Question 7 investigated teachers' awareness of issues related to privacy, copyright and security in the digital world. Although over 40% of teachers expressed concerns regarding these issues, roughly one-third stated their neutral position. One in four claimed that they probably would not consider these issues at all. Further inferential analysis also showed that male teachers expressed slightly more sensitivity towards privacy, copyright and security issues when using CALL (see 4.7.2)

Question 8 required teachers to provide information on their pre-class preparations for using technologies. Over two-thirds of them said they would check the technological tools before starting the class to make sure that everything is working properly. Others, however, found this kind of preparation as unnecessary. Further inferential analysis also showed that it was more important for older teachers to check and prepare the technological tools before the class (see 4.7.1).

Question 9 asked teachers how they would respond to possible technical problems during the implementation of technological tools. From the three responses provided, the majority of the teachers (70%) said that they would first try to solve the problems by themselves. Seeking technical support from school administration was selected as their second option. Teachers ranked seeking help from the students as their final option.

Responses to the remaining nine questions are reported in Table 4.5. Results for Questions 10 show that most of the teachers (87.8%) believe that they need to have a wider knowledge of technology than their students do, in order to be successful CALL practitioners. Likewise, in response to Question 11, the wide majority of them (91.4%) stated that extended access to new technologies would enhance their motivations for implementing CALL. In response to Question 12, three-quarters of the teachers perceived themselves responsible for responding to students' possible negative predispositions against certain technological tools. Many respondents (79.3%) agreed that technology could positively contribute to better time management in the classroom. Further inferential analysis also showed that teachers above 30 expressed relatively stronger agreements towards the idea that CALL positively contributes to better and more effective classroom management (see 4.7.1).

In response to Question 14, most of those surveyed (83.5%) disagreed with the idea that technology could negatively impact their authority as a teacher. While almost half of the teachers had neutral opinions in response to Question 15, some agreed that technology is an effective aid to assess the students' performance. Further inferential analysis also showed that older teachers expressed relatively stronger agreements towards the idea that CALL positively contributes to better and more effective assessment (see 4.7.1). In response to Question 16, the majority of them (80.7%) felt that the implementation of CALL does not make them feel anxious and stressful. However, teachers expressed their willingness to use simpler technologies in order to have better control over them. These results suggest that teachers tend to choose and use familiar technologies, with simple features, to avoid experiencing stressful times in the classroom.

Finally, in response to Question 18, almost three out of four agreed that the successful implementation of CALL requires the presence of the teacher, which emphasises the leading

role of the teachers in language learning in the Iranian context. Some other teachers, however, believed that learning could occur at the absence of the teachers.

Table 4. 5 *Percentage frequency distribution of participants' responses to Questions 10-18 (1=strongly agree, 2= somewhat agree, 3= neither agree nor disagree, 4= somewhat disagree, 5= strongly disagree)*

	n	**Mean**	Median	%				
				1	2	3	4	5
10. CALL teachers need to have a wider knowledge of technological tools than their learners.	140	**1.54**	1	60.7	27.1	9.3	2.9	0
11. Availability of up-to-date technological tools in the school increases my motivation to implement CALL.	139	**1.45**	1	66.4	25	5	1.4	1.4
12. It is my responsibility to respond to students' possible negative predispositions against certain technological tools.	140	**2.04**	2	27.1	47.9	20.7	2.9	1.4
13. I think technology helps me to manage my class time better.	139	**1.86**	1	38.6	40.7	17.1	1.4	1.4
14. The use of technology affects my authority in the classroom in a negative way.	140	**4.15**	4	2.9	4.3	9.3	42.1	41.4
15. By implementing CALL, I assess students' performance more effectively.	140	**2.39**	2.5	15.7	34.3	45.7	4.3	0
16. Implementation of CALL in the classroom brings me stress and anxiety.	140	**4.20**	4	2.9	4.3	12.1	31.4	49.3
17. I prefer using simpler technologies in order to have better control over them.	140	**2.64**	2	7.9	53.6	13.6	16.4	8.6
18. CALL is worthwhile and effective only with the presence of teacher.	140	**1.98**	2	39.3	34.3	17.1	7.9	1.4

The overall results in this section revealed that Iranian EFL teachers were using a range of technologies, including simple ones such as CD-players, which might be considered out-dated in comparison to new technologies such as smartphones and tablets. There were

examples, however, that teachers reported using complex advanced technologies like Virtual Reality. From a pedagogical perspective, teachers were mostly using technological tools for listening practises and delivering new materials. They did not report feelings of stress or anxiousness and primarily relied on themselves when resolving technical problems. They, indeed, believed that teachers need to have a wider knowledge of technologies than students do, if they would like to become successful CALL practitioners.

4.3.3.8 Summary

The results in this section indicated that implementation of technology brings about new responsibilities and concerns for the language teachers. They need to update their ICT knowledge to an acceptable level, deal with unpredicted technical difficulties, as well as students' possible negative predispositions towards CALL activities. At the same time, teachers believed that the proper use of technologies could facilitate their jobs in different ways. Regarding teachers' ICT knowledge, it seemed that PLS administrators had the highest expectations of them, believing that technology could assist teachers in being more effective. Teachers had fairly reasonable expectations of themselves and did not perceive themselves as IT experts. More data on teachers' implementation of CALL was elicited by observation, which is presented in response to the second research question (see 4.4). For discussion see section 5.2.1.

4.3.4 CALL Evaluation

The section presents the results of teachers' perspectives with regard to the evaluation of CALL. In response to the interview questions (see Appendix 5), majority of the interviewees identified student feedback as their main tool to evaluate their CALL performance, however, a few declared using self-evaluation method too. A number of teachers preferred implementing implicit evaluation methods, that is seeking the students'

opinions about the implemented technologies in an indirect way. This method, as reported by the interviewees, included seeking feedback through students' performance and learning rate, as well as their emotional and behavioural expressions and reactions. Below are a number of teachers' comments on implicit feedback:

Arash: *The kind of feedback I receive is kind of implicit feedback based on the students learning rate. I have never asked the students directly.*

Ava: *One important way is to check the student's progress. If technology helps the students to make more progress, it can be inferred that the use of technology has been beneficial.*

Navid: *Well, the first evaluation tool would be the performance of the students. If the students demonstrate better performance and higher motivation to pursue the task, I can see that they are interested in the program. How much engaged they are. The other feedback would be the results. I once had classes of the same level in the students and when I began to use social networking tools and websites in one of my classes, I could see a remarkable change in the students' performance.*

Amir: *Recently, I have become much more confident in using CALL in my classrooms and as a result, the students have also shown more satisfaction. Overall, the use of technology brings about positive feedback.*

Maryam: *Students behaviour is a good way to see what is their feedback.*

Sima: *if I am using YouTube to display a movie, I can see from their faces if they like it or not. And they are sometimes asking can we watch more videos.*

Mahin: *I could see from students' reaction if they find a tool interesting or boring, without need for any direct asking them.*

As reported in the comments above, teachers exercise different methods to gauge the effectiveness of their technology. Some of them, such as Arash and Ava, viewed learning rate

as an indicator of successful technology integration, whereas others, like Sima, believed decisions could be made based on the emotional interactions. Those who indicated students' learning rate as their evaluation method, however, did not explain how they investigate the correlation between technology use and students enhanced learning. It appeared that their judgement was based on their personal evaluation of the situation.

While the majority of the teachers agreed on the advantages of indirect feedback, a few of them believed that direct elicitation of feedback could be equally important and helpful. Sima identified this as one of her routine tasks, saying *I also explicitly ask the students how they feel about the presented lessons and practices. I do it every single session.* Navid, likewise, emphasised the importance of direct feedback by calling it 'emotional feedback'. He said:

One of them [evaluation types] is emotional feedback. I go directly to my students, and I ask them for their opinion about, for example, the website. I can say that almost 90 per cent of the feedback I receive from my students is positive. They say they like the interaction that happens on Edmodo, and they said the discussion make them prepared for the classes and they benefit more from the class than before.

Reza revealed implementing a more quantitative approach:

In our school, at the end of each term, we have some questionnaire to receive feedback from students which happens through a phone call. The secretary calls the adult students and parents for younger children, and we have technology-related questions like for example how much the teacher used DVD player, songs, and audio files.

From Reza's comments, it could be inferred that in that particular PLS the evaluation is concerned mainly with the amount of technology use, without paying much attention to and assessing the impact of CALL practices on students' learning. It appears that this kind of evaluations try to ensure teachers' use of technology, however, neglect assessing the

effectiveness of CALL practices. Apparently, this kind of feedback could not create valid evidence and data for modifying CALL practices for future teaching. As noted in Navid's comment, the direct evaluation of CALL use also included asking general questions about students' feelings and opinions, rather than investigating particular aspects of learning, for instance, asking questions about vocabulary acquisition.

Among the interviewees, only two of them identified self -evaluation and self-reflection as effective methods of CALL evaluation, where teachers evaluate their own technology use during and after implementation. Arash believed that teachers need to self-evaluate their use of technologies and gauge their impact on students' learning. He said:

For example, we use mobile phones in the class, which may be very interesting for the students. They perhaps have great time. But I should see is that really improving their learning, or no it's just for fun?

Arash noted that the excitement of using new technologies should not mislead teachers from assessing their pedagogical capacities. It appeared that the kind of evaluation described by Arash was based on his own observation of the students' learning, without implementing particular evaluation tools and methods. Maryam, however, suggested that having a self-evaluation checklist, teachers could reflect on their use of technologies and assess its effectiveness and impact on students' learning. She did not explain further about the content of her suggested checklist.

4.3.4.1 Survey Results

The next section of the survey asked questions related to the evaluation of CALL practices, during or after the implementation phase (see Appendix 8). As shown in Table 4.6, it was likely for the teachers to evaluate the effectiveness of technological tools at the time of implementation. In other words, they tended to have the on-the-spot judgement of

technological tools' effectiveness for their particular teaching context. They also reported conducting after-class evaluations. Teachers considered it likely to receive feedback from students on the usefulness of the tools. In response to Question 4, participants expressed their willingness to find alternatives to the technologies that were not favoured by the majority of the students. Finally, teachers said that, for them, students' language proficiency development is an important indicator of a technological tool's effectiveness.

Table 4. 6 *Percentage frequency distribution of participants' responses to Questions 1-5 (1=extremely likely, 2= somewhat likely, 3= neither likely nor unlikely, 4= somewhat unlikely, 5= extremely unlikely)*

					%				
		n	**Mean**	Median	1	2	3	4	5
1.	When I use technology, I evaluate its effectiveness while I am using it.	140	**1.81**	2	38.6	46.4	10.7	4.3	0
2.	When I use a technology, I evaluate its effectiveness after classroom hours.	140	**2.91**	3	15.7	23.6	20	35.7	5
3.	I try to receive feedback from students on the effectiveness of the technology I implemented.	140	**2.39**	2	28.6	31.4	15.7	21.4	2.9
4.	If the majority of students do not favour a technological tool, I try to use another tool.	140	**1.97**	2	30	51.4	8.6	7.1	1.4
5.	I evaluate the effectiveness of a technological tool based on students' language proficiency development.	140	**2.01**	2	25	51.4	21.4	2.1	0

4.3.4.2 Summary

While this part encompassed a small part of the interview and survey, it revealed important information about teachers' perspectives on the various ways of evaluation of CALL practices. Even though they reported exercising various methods, they did not specify the content and process of their evaluations. It also appeared that the evaluations largely relied on seeking students' feelings and opinions about technology use, without focusing on

linguistic aspects of students' learning. Survey result showed that the teachers perceived evaluation of CALL practices equally important, either during or after the implementation of CALL. They agreed with the idea that students' opinions and learning rate could likewise inform their evaluation of CALL practices. For discussion see section 5.2.4.

4.4 To what extent do Iranian EFL teachers' perceptions of their roles affect their use of CALL?

To answer this research questions, it was necessary to gather data about teachers current CALL practices. For this reason, observations were conducted in 8 classes. As mentioned earlier in section 4.2.1.8, content and thematic analyses of the data from the observations resulted in the following emerged themes:

- The social environment of the classroom
- Principal language teaching methods and teachers' roles
- Infrastructure and the available technological tools
- Use of technologies in language teaching
- Students' engagement in technology use
- Mobile phones' shifting roles in language learning
- Extracurricular activities by using technologies

While the first two themes are presented in sections 4.2.1.8, the remaining themes are presented here to provide information with regard to the teachers current CALL practices.

4.4.1 Infrastructure and the Available Technological Tools

The observed private language schools (PLS) in this study were considered as the prominent ones in the city of Zanjan, with a large number of students ranging approximately between 200 and 500 (as reported by the school administrators). All of the observed

classrooms were equipped with essential classroom tools, such as whiteboards and stationeries, and had satisfactory space and lighting system. Apart from the essential classroom tools, the observations closely recorded the sort and range of the available technological tools (i.e., digital devices). These tools could be basically categorised into two groups: tools provided by the schools, and the ones that teachers and students brought with them – usually referred to as BYO (bring your own). In this study, BYO tools were considered as available technologies, as in other developed countries like Australia, these devices are incorporated in some school systems, which are embraced by both school staff and students, and it is believed that they have contributed to the extension of student learning by increasing collaboration among the students (Maher & Twining, 2017). Similarly, the observations in this study showed that majority of the students owned digital devices such as smartphones, which at some points were used for language learning purposes to mainly facilitate access to additional target language materials, as well as translate between the two languages.

The range of technologies provided by the schools differed from one to another, however, they all had some tools in common, such as portable CD/DVD players capable of playing USB and AUX ports, and medium-sized speakers for providing enhanced sound quality, especially in larger classrooms. These tools were considered as essentials for every classroom, as they provided teachers with necessary gears to play the audio tracks that came with the coursebook. Six classes (except Amir and Sima's) were also equipped with TVs with large screens.

Additional technologies were also observed, such as computers, laptops, tablets, data projector, and access to Wi-Fi Internet. Regarding the Internet, in some schools both teachers and students were provided with unlimited access, however, in some others access to Wi-Fi was limited to the teachers' use and students needed to use cellular data to connect to the

Internet. The Internet speed was examined in different schools, which indicated an average speed of 4.8 Mbps, which is slightly lower than the the global average Internet connection speed of 7.2 Mbps as reported on Akamai (http://*Akamai.com).* But, access to some websites such as YouTube and Facebook were blocked by the government, and individuals were expected to use the local equivalent websites, or alternatively, use VPN (Virtual Private Network) tools to circumvent the restrictions. Table 4.3 illustrates the distribution of the available tools in each observed classroom.

Table 4. 7 *Technologies available in the PLSs*

Classroom	Television	DVD Player	Speaker	Wi-Fi	Laptop	Computer	Tablet/iPad	Data Projector
1	✓	✓	✓	✓			✓	✓
2		✓	✓	✓	✓			✓
3	✓	✓	✓	✓		✓	✓	✓
4	✓	✓	✓	✓	✓			
5	✓	✓	✓	✓		✓		
6	✓	✓	✓	✓		✓		✓
7	✓	✓	✓	✓	✓			
8		✓	✓	✓	✓			✓

The next category of technologies available were the ones owned by the students, as mentioned earlier, referred to as BYO, which included smartphones, tablets, laptops, and access to the cellular Internet. The observations showed that students widely used these tools in the classes, and in some cases, teachers guided or even modified their practices according to the available digital tools brought in by the students. The most frequently used tools were smartphones with access to cellular data for activities such as looking up meaning of the new vocabularies on the digital dictionaries and also searching for new data (e.g., images) relevant to the subjects being discussed in each particular class. Although all the students had

smartphones, for unknown reasons, not all of them had their phones connected to cellular data.

4.4.2 Use of Technologies in Language Teaching

The observations showed that technologies were used for various purposes and to different degrees in each class. While in some classes technology was used more systemically (e.g., the use of Edmodo), in other cases both teachers and students used technologies sporadically at the time of need to, for example, look up some information on the Internet. In other words, it appeared that in some classes, technology had a more central role, and teachers had pre-designed plans for its use. In this way, in Arash's and Navid's classes, for instance, teachers had required students to complete certain activities on Moodle and Edmodo learning management systems. In Navid's class, with 11 students, he tried to engage all the students within the limited class time (1.5 hours) by asking the students to work in pairs and tell about their hobbies by showing photos which were uploaded earlier on to the class' Edmodo page.

Maryam, in contrast, had a smaller class with only six students. The students in her class were upper-intermediate and had a good command of the English language. She used her smartphone to play an audio track about the advantages and disadvantages of living in an urban area. She played the audio track twice and asked the students to note down the key points, and then share with the class. This exercise, which took about 30 minutes, demonstrated a few key points: first, the interaction was mainly teacher-student type, with each student presenting information with an emphasis on receiving approval from the teacher; second, the technology (i.e., smartphone) was only used and controlled by the teacher, and the students were passive recipients.

There were several other examples of using smartphones to access digital dictionaries, which helped students with vocabulary learning. Generally, when students came across a new word, especially in the reading exercises, they tended to use their mobile phones independently to look up the meaning of the new vocabularies. Smartphones were also used to look for new information on the Internet. In Mahin's class, for example, she asked the students to talk about their favourite athletes and encouraged them to use their mobile phones to gather more information about each athlete to share with the class. Nevertheless, in the case of Navid's class, smartphones played more important roles as the students accessed Edmodo on their phones and performed the required activities. It was interesting to see that when Navid broadcasted the Edmodo page on the TV screen, many of the students simultaneously used their phones to comment on each other's posts.

Another major use of technology was for listening exercises. Teachers used various tools such as laptops, computers, CD-players, and in one case smartphones, to play audio tracks from the accompanying coursebooks. Following communicative approaches to language teaching, the coursebooks contained a lot of conversational exercises where two or more people were engaged in dialogues, and the audio tracks allowed students to listen to these conversations in addition to reading them. Thus, playing the audio tracks was an integral part of the syllabus, and teachers used various tools to perform this task. While a few teachers used the conventional CD players to play the audio tracks from the CD, others had copies of the files on their digital tools and played from there. It was noticed that using other tools such as smartphones to play audio tracks helped the teacher to have better control over the task and easily use the available functions (i.e., pause, play, reply, forward etc.), which appeared to save time for the class to do other activities.

Two of the teachers (Arash and Navid) used Moodle and Edmodo learning management systems, basically for delivering learning resources and collecting students'

assignments (i.e., writing tasks). Especially in the learning environment created by Navid on Edmodo, the majority of the course content was uploaded on Edmodo, where students could access before or after class hours. Navid encouraged the students to mainly engage with the content on Edmodo to eliminate the need to read the coursebook page by page in the class. As later mentioned in the interview, Navid stated that "*I want the students to read the new materials before coming to class, so that we will have more time for practice in the class*". On the other hand, Arash mainly used Moodle for collecting students' assignments, and he believed that "*working on the digital copies are much easier and useful than reading the students hand-written texts*". Arash and Navid both provided feedback to students' performance on these platforms, in addition to face-to-face advice during the class hours. From the observation, it was realised that these teachers were confident in using these tools, even though they did not benefit from all the features available in them.

In another example, Ava used Telegram social networking app and created an online chat group for connecting with the students outside the class hours. In this group, both the teacher and the students had posted different multimedia files (e.g., videos) to discuss various topics, and they had also implemented other features such as replying to a certain message in the group or several uses of stickers. This platform allowed the students to maintain their interaction with the teacher and other students outside the classroom hours.

Overall, while some teachers sufficed to use TVs, others practised more advanced technologies like Edmodo. Throughout the observations, no examples of technical problems or a teacher's lack of ICT competency was observed. Nevertheless, it was difficult to explain teachers' competencies based on the observations conducted for two reasons. First, each teacher was observed only for one session of 90 minutes, and it was not possible to observe and examine all their technology-integrated teaching capabilities, or lack of competency in certain areas. Accordingly, more data on teachers' competency were collected in the

interview and survey phases, which is reported in Section 4.6.5. Secondly, the range of technology uses in the observed classrooms were fairly limited, which makes it difficult to make interpretations whether it was because of teachers' lack of competence or the structure of the syllabus and teaching plan. Otherwise, based on the observed practices, teachers demonstrated a satisfactory level of competence in basic ICT and using the tools reported above (e.g., browsing on the Internet). In addition, although students were not the focal point of the current study, observation results showed their technological savvy, especially in using smartphones and the apps installed on them. It was also interesting to observe that in a few cases, students shared their knowledge of language learning apps and recommended them to each other.

4.4.3 Students' Engagement in Technology Use

One theme that emerged from the observation data was the students' engagement type with technology, as a result of the teachers' use of technology, which means students were either passive or active users of the technological tools. By passive, it is meant that students were recipients of the technology use, where the teacher controlled the technology and students received the results of that without actively being engaged. For example, as mentioned earlier in Sima's vignette, she googled and displayed pictures of different jobs on the big screen and asked the students to name their dream job and describe its qualities. In this example, the whole process (i.e., browsing the net) was led and performed by the teacher, and students only received the results (i.e., images) of those actions.

In other cases, however, students had more active roles by being users of technology themselves. For instance, in using Moodle and Edmodo learning management systems, students worked with these tools on their personal devices (e.g., laptop) and contributed at different levels. They were allowed to post on discussion boards, respond to their peers, and

ask questions from the teacher. In the Telegram example too, students used their personal smartphones for this purpose and contributed by uploading and sharing various multimedia files. At this level of engagement, tech-savvy students were assigned more responsibilities for controlling their use of technology. One of the observation notes described this difference as:

> *It appears that when students actively use technological tools they find the tasks more interesting and show enhanced participation. When Amir browsed photos of different cities and showed to the students, they themselves did the same job and browsed different cities on their mobile phones, without being told by Amir.*

From the above observation, it could be understood that students were eager to take active roles, even without being told by their teachers. This shows how digital devices, such as smartphone, were playing important roles in students' language learning experiences.

4.4.4 The Shifting Roles of Mobile Phones in Language Learning

Another important observation was language teachers' reactions to mobile phones' use in the language learning process in the PLSs. This point was even more interesting in the Iranian culture with its conservative culture within the educational system. In the early years of introduction of the mobile phones, they offered limited capabilities, comparing to now, such as voice calls and, later on, short message service (SMS). Considering these limited applications, not much language learning assistance capability was imagined for these tools, and therefore, the use of mobile phones in the classroom was perceived as nothing but a distraction to the language learning process. Consequently, in many PLSs neither teachers nor language learners were allowed to use their mobile phones during the class hours. Not surprisingly, a decade ago, a small number of students used to have mobile phones, which

compared to today's models, were very primitive and they could not do much with them, except calling and sending/receiving text messages.

By the evolution of mobile phones, however, the situation has changed drastically. Majority of the mobile phone users use smartphones with a variety of capabilities not only for language learning purposes but also for undertaking essential everyday activities such as shopping. In a similar vein, in these observations, almost all teachers and students owned smartphones and were connected to the Internet via either Wi-Fi or Cellular Data. Contrary to the past, in several cases, it was observed that teachers welcomed the mobile phones in the classroom environment and, for instance, invited students to look up the meaning of the new words on their phones or browse new information on the Internet and share with the class. Ava asked students to take photos relevant to the topics of the lessons (i.e., hobbies) and bring them to class the following session to share with their classmates and describe them or upload into their Telegram virtual group.

These observations showed how mobile phones had received new roles as learning aids, which, on the positive side, enable students to add variety and fun to their learning experiences and in some cases extend learning beyond the classroom environment. Therefore, mobile phones are not only not considered as mere distractions, but also are believed to, as Arash stated, *help students to learn the target language by engaging in authentic tasks if they are used properly, both in terms of amount and content*.

Use of mobile phones, on the negative side, had disadvantages too. In several cases, it was observed that students exited the classroom to take their phone calls, and this seemed to be a distracting factor for the other students, as well as the teachers. While some teachers allowed students to take phone calls during class time, others disagreed with this act and required students to stay focused in the class. It showed that teachers had varying approaches toward policies of using mobiles phones. But responding to phone calls were not the only

distraction caused by mobiles phones and some students tended to use their devices to engage in social media, browse the Internet, and even play games for non-curricular purposes. These observations highlighted the fact that the use of mobile phones in the classroom environment could be both advantageous and disadvantageous, the usefulness of which could be possibly managed by the rules practised by the teachers.

4.4.5 Language Learning beyond Classroom

Another major observation was the use of various digital tools by the language teachers for the purpose extension of language learning beyond the classroom environment. As mentioned earlier, the language curriculum presented in the PLSs under investigation offered limited hours of classroom time to both language teachers and learners. The typical class time was 90 minutes, running for two or three days a week, providing students with approximately 3 to 4.5 hours of exposure to the target language and an environment where they could communicate and interact in that language. In addition, as noted earlier (see 2.4.2), English is considered as a foreign language in the Iranian context, and students usually do not have exposure to the language outside the classroom environment. Thus, the acquisition of the target language is normally limited to the classroom environment, and during the time between the classes, students are expected, if at all possible, to review the presented materials.

One traditional way of encouraging students to maintain their contact with the target language and practice is the implementation of various pieces of homework, which is usually in the form of using the workbooks accompanying the main coursebooks. Some of these workbooks come with audio-files on a CD that allow students to listen to them outside the class time and complete the associated exercises. One major drawback to this type of practice appears to be the lack of communication between the students and the other class members,

which can provide them with the necessary feedback to notice their inconsistencies in the target language.

It was observed, however, that some teachers tended to extend learning beyond the classroom hours by using new technologies such as students' smartphones. In this regard, teachers encouraged students to follow up the presented lessons in the classroom by creating new relevant content using their smartphones by activities such as taking photos from their immediate surroundings and everyday life experiences. By activities like this, students not only reviewed the classroom content but also developed new content on their own, which built on their prior learning and encouraged independent learning among them. During classroom conversations, students expressed their enthusiasm towards these activities and demonstrated their engagement by actively attending to them.

Two other major examples of extended learning were Arash's and Navid's classes, where they implemented Moodle and Edmodo and provided more learning opportunities for the students. These two platforms offered a larger variety of activities to the students, and they could access course content accompanied by a range of multimedia resources. They could also generate and share content and receive feedback from others. These examples demonstrate more constructive ways of language learning, which allows students to engage in meaningful communication with others using different modes of language (i.e., text, voice, video, or image), at different time patterns and not limited to the class hours.

4.4.6 Summary

The central aim of this study was to investigate Iranian EFL teachers' understanding of their roles in CALL, in relation to their current CALL practices. Given this, various sets of data were collected, including observation, interview and survey methods. As a starting point for this journey, classroom observations provided valuable data on the characteristics of the

current research context, as well as the teachers' behaviours in relation to their teaching practices and the use of new technologies. In other words, these data allowed us to know what technologies were available and how teachers benefited from them in their own ways. Further to this, these data properly informed the questions for the interview phase, and subsequently, the online survey for the quantitative part of the study. Even though a 90-minute observation was not sufficient to comprehensively observe and record teachers' every use of technologies in different circumstances, it provided a holistic picture of teachers' implemented pedagogies and technologies with illustrative examples of in-the-moment decisions and behaviour.

The results from the eight classroom observations showed that technology was partially integrated with the language teaching and learning, however, it was used to different degrees in each classroom to perform certain activities. In other words, technology was used as a supplementary tool to enhance learning opportunities and increase students' engagement. Technologies like the Internet allowed teachers to provide students with additional learning materials, and in some cases, extend learning beyond the classroom environment by using, for instance, social networking apps. Teachers recognised students' smartphones as helpful tools that allowed students to share their personal experience using self-generated multimedia on their devices that in turn, contributed to more independent learning among them.

It should be noted that the aim the current study was not to draw a one-to-one comparison between each teacher's perceptions and his/her current CALL practices; rather, it was attempted to study this impact holistically. Therefore, interview and survey results are compared with teachers current CALL practices in the following chapter (see Section 5.3), and the potential links are discussed further.

4.5 What are the expectations of Iranian EFL students and school administrators with regard to the use of CALL by Iranian EFL teachers?

In addition to language teachers, four language students and four private language school (PLS) administrators were interviewed to seek their perspectives on teachers' roles in CALL. Teachers, students and administrators answered different versions of the interview questions, in terms of number the questions and wording. In some sections, such as teaching methodologies and CALL evaluation, only teachers' perspectives were sought. In CALL training section students were excluded. In several cases, the type and wording of the questions were modified to fit the relevant audience in the best way. Students' and administrators' responses are presented under the following three areas: Role of technology, CALL design and development, and CALL implementation. These results are further discussed in the next chapter (see Section 5.4).

4.5.1 Students' and PLS Administrators' Perspectives on role of technology

Similar questions about technology's role in language learning/teaching were asked from students and PLS administrators. Almost all the students emphasised the need for human interaction and the presence of the teacher. One student shared his experience of learning English using a language learning digital package, available as audio CDs and Video DVDs:

> *It is possible to learn, but because there is no one to teach you, explain more about that word or grammar, you should try hard, very hard to learn that by yourself. And even when I try to speak, there is no teacher to tell me how is my speaking. Or what are my mistakes. Face-to-face communication is very helpful.*

This learner indicated that teacher's job is both facilitator and conveyor of knowledge. He believed that a human teacher could help him to have an easier learning experience. He also commented that computer programs might have limited information, and they can respond to you based on what is available to them; but teachers have wider knowledge and could seek new information from another resource, when necessary. The idea of computers as tutors was not supported by most of the students, however, they acknowledge the learning opportunities created by technologies. One of the students explained his experience of learning vocabularies and phrases by playing games on his smartphone and computer. This learning, however, was not initiated or supervised by the teacher, and he was engaged in self-directed learning, which he believed complemented his main learning in the classroom environment.

Another student shared her experience of using a vocabulary learning app, *1100 essential vocabularies*, on her smartphone and commented that *I used the app for few days, and when the number of words increased, I lost my interest. I mean, I learnt too many words in a short time, but I didn't really know the meaning of many of them*. This example demonstrates how unsupervised learning could demotivate the learners and disengage them from learning a foreign language. In this case, this app not only does not help to develop students' language knowledge but also results in shallow learning of vocabulary lists or grammatical rules. After all, it was interesting to hear one of the student's imaginative idea about language learning:

> *I believe one day we will have some [electronic] chips in our mind by surgery, that will allow us to speak any language that want.*

Despite its science-fiction nature, this idea indicates that in some cases, students perceive great potentialities for technologies, and it can be the result of the increasing role of

technology in their everyday lives. The same student, however, appreciated the advantage of a human teacher by commenting that *no one can make a robot that has communication with you like a human, have fun, tell joke… these activities in the class encourage students to learn*. In another interesting comment, one of the students admitted that she sometimes uses her smartphone at school, not PLS, for cheating by looking at the PDF files. This example clearly demonstrates how technologies could be misused by the students at the absence of having a plan and solid supervision.

PLS administrators likewise recognised computers as tools, rather than tutors. One of the administrators said:

> *We try to equip the school with new technologies in order to facilitate teachers' job and help language learners to have more efficient performance. Teacher's role is undeniable, and they cannot be replaced by computers. But I think computers can help teachers greatly.*

Another PLS administrator shared similar perspectives on the importance of the role of technology, saying:

> *I think it is very helpful, first of all. Secondly, it helps teachers when it comes to delivering content and materials. I would like to give you an example when you are looking for something, and when you have the internet on your system (PC), technology gives you great accessibility, the teacher can answer students' questions using the Internet. Technology supports us with great facilities for demonstration of materials. Technology also allows me to have a better connection with my teachers, for example, using social networking apps. Also, I can share many sources with teachers in a quick way.*

On the other hand, another administrator believed that the learning environment of a PLS could not be duplicated in a technology-based language program by commenting that:

> *Maybe some highly-motivated language learners can learn English using apps or movies or from resources on the Internet. But others need to attend language classes. They need to be given a plan, support and appropriate materials to their levels. We test them, and put them in the best class that fits their level… I don't think a computerised program can offer all these.*

The responses above indicated that the participants perceived technology as a tool in the hands of teachers for facilitating their jobs and providing more learning opportunities. In the Iranian context, the concept of perceiving computers as language tutors seemed to be strange, due to two main reasons: first, prevalent traditional teaching approaches, which has great emphasis on teacher's presence as a motivating agent; and second, lack of suitable technological infrastructure for technology-based language instruction. One student, for example, described her teacher as a role model by saying *I like to be[come] fluent [in] speaking like my teacher*. This is particularly important, as many language learners, especially adults, think that they would not be able to become competent users of a second/foreign language ever. Seeing their non-native teachers as competent users of the target language, however, students realise that learning a second/foreign language is possible and within reach. One of the PLS administrators quoted a famous conception in TEFL, saying *teaching does not necessarily cause learning. I think the entire TEFL world is based on how we can make teaching lead to learning, and this the teacher who plays the key role here.*

4.5.2 Students' and PLS Administrators' Perspectives on CALL design and Development

One of the students commented how they could contribute to the technology use saying, *me and my friends can use [mobile] phone for vocabulary, for movie, for song, music… so teacher [could] be encouraged to use technology too*. In this example, it appears that this student believes that their use of technology could enforce teachers to implement technology-enhanced tasks as well. When I asked the same student about her expectations of her teacher regarding the use of technology, she responded:

> *Unfortunately, some people, students, in some classes, don't have a lot of money to buy some technology, so in some classes technology use is not achievable. But I expect my teacher to use what is available in the class. It really helps me to learn English.*

An interesting perspective was shared by one of the students, saying that if they achieve good results and learn the lessons successfully after implementations of technology, teachers will be encouraged to become more active by seeing those results. Another student commented that he expects his teacher to use technology because *the world is now using technology, my country, too, but not much. Some cities maybe more, but not much here. We use smartphones, tv, and watch movies*. In another comment, one of the students believed that they could consult their teachers about the new apps and new ways of learning with technology and *make them [teachers] to change their minds*. This comment indicates that some students perceive significant roles for themselves in promoting CALL instruction.

In response to the question "how do you perceive the role of the teacher in designing a CALL task?" one of the PLS administrators commented:

If I consider it as a class-based thing, for example, when you are teaching following TBLT approach, the teacher has the role of designing. For example, if you are teaching a movie or you are teaching a piece of music, usually the teacher designs a worksheet. They present something visual in the classroom, or anything that asks student to get involved in the task and do it. So, when our teachers have access to digital information, I think it makes it easier for the teacher to design that.

This administrator believed that access to digital technologies provides teachers with extra information and makes it easier for them to design tasks appropriate for their classroom environment. Another administrator commented that they have a limited budget to equip their school with new technologies. He added

Tuitions fees here are not very much. I would like to get more tools, bigger TVs, provide Wi-Fi access to everyone [including students], but it is not possible because of our limited budget. I agree that teachers are not being paid as much as they should, but we are working based on the standards that we have been advised by the department of education. And even if we increase the tuition, we maybe loose many of our clients.

This interviewee's response is important considering the fact that some changes need to be made at higher levels, such as the Department of Education, to provide schools with opportunities to upgrade their educational system. PLSs, however, apparently could improve their educational qualities by implementing effective strategies within their institution.

Another administrator commented on the degree of autonomy that she grants teachers with. She explained that teachers are allowed to use any technologies, available in the PLS or brought in by them or students, as long as the results indicate that the language learners have achieved the intended learning outcomes at each level. She believed that limiting teachers to use of certain technologies or apps could discourage them and stifle innovation and creativity

among them. She commented, however, that she *would like to see teachers benefit from technologies that are available*. Talking of an ideal teacher, she commented:

Let's put it this way, my ideal teacher regarding CALL, is the person who is familiar with some software, knows how to edit text, how to work with Photoshop, Excel, who knows a little bit about testing, knows how to design questions. And also know how to utilise computers properly. PowerPoint I think plays an important role here. This knowledge of technology, combined with teaching experience will make a great teacher.

From these comments, it seems that teachers are expected to know a range of software and apps. She believed that not all the teachers have all of these qualities, but the teachers that she employs should know at least a few of them or be willing to acquire.

Overall, students reported that their teachers are using some technology, but they expect more technology-enhanced tasks. Students reported positive approaches toward having a technology element in their language learning process and thought that technologies could help them to achieve better results. In a similar vein, PLS administrators acknowledged the importance of integration of technologies into their school system, however, they reported the existence of financial barriers for designing and developing technology-enhanced practices. In the following section, interviewees responses regarding various aspects of CALL implementation are presented.

4.5.3 Students' and PLS Administrators' Perspectives on CALL Implementation

Students and PLS administrators provided interesting perspectives regarding the implementation of CALL. One student believed that the current technological infrastructure could not result in a successful learning experience with technology. He, for example, perceived high-speed Internet as a prerequisite for having a sound audio-visual

communication with others, and in his opinion, simple text-based interaction could barely help with language learning. Another student supported the idea of having communication with the teacher and other students and commented that one-way communication, such as watching movies, would not improve his English to a large extent. Generally, students agreed that teachers should have a fair knowledge of ICT, and they felt that their teachers were knowledgeable enough in terms of technology. One student commented that

> *He [teachers] can study technology for general knowledge, no English student ask, for example, how can I change the Android of this phone… If I know about one app I can share it with teacher; maybe he gives me a positive [reward].*

This student indicated that teachers are not expected to have expertise in every aspect of knowledge but believed that it is part of a teacher's general knowledge to be familiar with a range of technologies. He also describes his willingness to share his knowledge of technology and hopes to be rewarded for it. This might suggest the idea that teachers need to reward students for the ideas that they share with the class, which might reinforce this behaviour of them. Another student commented that *if he [teacher] makes a mistake [using technology] I would like to inform him, if I know*. Administrators, on the other hand, seemed to have higher expectations from the teachers. One administrator said:

> *Nowadays it is the age of technology, and someone who wants to be a better teacher not only should he know about the language, but also he should have knowledge of technology. So I believe they should be one head and shoulder above the level of students to equip themselves with new technologies.*

Another administrator commented:

> *Although we are not teaching ICT, we are using that as a tool to achieve our goal, which is teaching the target language. But there are always exceptions, for*

example, when an ICT expert is in the classroom he would definitely know more about ICT than the teacher. What we are talking about is the average knowledge of ICT, for teaching purposes. Knowing the basics is necessary for the teacher.

In terms of dealing with technical difficulties, students expressed their willingness to help their teachers and believed that in some case, they might know more about technologies, than their teachers. Another student suggested that *teachers should use technologies that have [after-sale] service, and if he faces a problem, he calls the services and finds out how to solve the problem*. One of the administrators believed that it is part of the teachers' role to deal with small technical problems in the classroom, commenting that *If they are familiar with the basics of computers they would be able to solve it, because we are not using complicated technological systems in the school*. He, however, agreed that for bigger problems there is a need for a technician to fix them. While administrators supported the idea of having IT technicians in their schools, they reported two reasons for having one in their schools. First, they believed the level of technologies they were using were not sophisticated enough to demand an IT technician to run, support and mentor. They articulated financial barriers as another barrier for recruiting a full-time IT technician. Two of the administrators, however, predicted the need for having IT technician in their school in the near future when the increase their use of technology.

4.6 What are the common CALL teacher training types in Iran and their impact on teachers' CALL practices?

In the interview and survey sections, teachers' were asked questions about their CALL training experiences and its impact on their roles as CALL practitioners. Building on the previous results from observations and other sections of the interviews, it was a rational enquiry to find out how teachers acquired their CALL knowledge and skills, or how they

believed the training should be like. The training questions in the interview was only conducted with the language teachers and administrators, excluding students. In response to a range of questions (see Appendix 5), the interviewees indicated going through various CALL training pathways and provided further information regarding their perceptions of ideal CALL training.

4.6.1 Teachers' Current Training

While the majority of the teachers reported a self-directed CALL training experience, other training types were identified as well. The majority commented that the language teaching courses at university, regardless of degree level, as well as training in the PLSs, lacked specific CALL training which would demonstrate various uses of technology in language teaching, at both theory and practice levels. Arash, who had a PhD in TEFL (Teaching English as a Foreign Language) and 13 years of language teaching experience, commented:

> *I didn't have any specific training for using CALL during my university degree. The hands-on experience can be achieved… during a university unit. I think the content of TEFL courses at university need to be modified and include lessons on CALL to prepare teachers to use technologies effectively.*

Arash not only reported the lack of CALL component in his university courses but also suggested the inclusion of a CALL unit which would provide teachers with hands-on experience to successfully integrate technology into their teaching practices. In a similar vein, Ava reported that her experience of CALL at university was limited to reading a few academic articles on CALL within their language teaching methodologies unit. It could be inferred that Ava's limited training on CALL at university was mostly theoretical, without

providing her with practical lessons. Talking of CALL training at university, Maryam shared similar experiences:

> *We had just a few discussions during my degree about the use of new technologies in language teaching/learning. But these discussions were quite sporadic and was not in the form of training. We read some theories as well, but I didn't go through practical training.*

Interviewees reported the existence of a similar situation in PLSs. While they indicated undertaking a teachers' training course (TTC) prior to beginning their teaching every term, PLSs did not include any CALL-specific component in their training. Amir attributed the lack of CALL training in PLSs to the fact that t*he school doesn't demand us to use any specific technology*. Mahin, similarly, commented that "*we know what and how much we are expected to teach each term; but we don't have a similar plan for adding technology to our practices*". It seemed that lack of obligation from PLSs for technology use made it unnecessary to include CALL component to TTC courses.

Of the eight teachers, three of them reported attending CALL workshops. Navid, who had the experience of attending a CALL workshop, perceived this training type as effective and informative. He explained:

> *I recently attended a two-hour workshop about the Edmodo website. I think it was very informative. After this workshop, I decided to transfer part of my teaching into this online environment. Before attending this workshop, I had no idea about learning management systems.*

Although Navid was satisfied with the content and structure of the workshop, he highlighted the existence of a few problems:

One problem is that this kind of workshops is sometimes expensive to register and attend…. I myself decided to attend this workshop, so I received no financial support from the school. The other problem is that when I decide to apply Edmodo in my classes, I receive no support or appreciation from school, which I think is demotivating sometimes.

Navid's case demonstrates that teachers who spent time and money on learning CALL and later on implement technology-enhanced practices demand to receive necessary support and attention from the PLSs. Arash, who had the experience of attending CALL workshops, also acknowledged the hands-on experience that teachers could receive in CALL workshops, however, he as well highlighted the existence of financial barriers for attending the workshops.

Despite the lack of sufficient training opportunities, teachers expressed their willingness to improve their CALL knowledge and skills and demonstrated various implementations of CALL tasks, as noted in the observations. Considering the lack of CALL training in university courses and TTC courses run by the PLSs, interviewees identified self-directed CALL training as their main learning type. Several teachers reported using technologies based on their personal motivations, for the reasons mentioned in the previous parts of the interview.

Most of the teachers identified the Internet as the main source to browse various language teaching/learning websites and get new ideas on how to integrate technologies into their teaching. Sima, for instance, commented *there is a website called www.coursera.com where there are units about how to teach; Once I had one course there, which was about the use of technology and I found it quite useful*. Ava, likewise, commented *I usually to try to find some instructions online on the Internet*. Reza also shared similar experiences, however,

he believed that this type of learning does not provide teachers with necessary technical information. Another major drawback of this type of self-directed training was reported to be its non-continuous nature. Amir, for instance, stated that he looks for new information on CALL practices only at his spare times. It could be inferred from this comment that learning and implementing CALL is not a routine part of Amir's job as a language teacher. For Reza, CALL training and implementation was a matter of trial and error:

> *I use the Internet and digital dictionaries in my classes, based on what I have learnt myself…. Most the time I try a tool and see if it is useful or I need to try another one.*

Teachers identified peer-learning as another useful way of getting new ideas about the implementation of CALL tasks. Amir explained:

> *It is very common that in teachers' room we talk about new apps for language learning and their wonderful features. We learn from each other and share knowledge. I am usually the one who mostly learn from others.*

Arash acknowledged the learning opportunities that exist in communicating with peers, where he admits that other teachers usually are the providers of the new information regarding CALL. Likewise, Mahin shared his experience of talking about CALL with his colleagues, but he highlighted the fact that these conversations are not systematic:

> *We have informal discussions about technology every now and then while we are having tea. It is usually when one teacher tells others about a new website or movie for language learning he/she has discovered. But I wish we had a meeting where we can systematically discuss CALL issues and learn from each other in a cooperative environment. But I don't think school will be happy to pay us to stay and hold such meetings.*

Mahin mentioned that the existing peer-learning environment is not constant or regular, and it only happens if a teacher has discovered a new application of technology in language teaching, and even more important, if that teacher is willing to share his/her experiences with peers. Second, she believes that holding regular session could help teachers to improve their CALL knowledge and skills in an organised way. Finally, she is sceptical about PLS's inclination to support and manage such sessions, due to financial limitations. Reza shared similar experiences and perspectives:

> *When we are in teachers' room during the class breaks, some colleagues introduce website which has cool songs for language learning. Audio files for this level. Yes we share ideas, and then I go and follow it and it is all fine. But we don't have a formal gathering for this CALL purpose, it only includes informal chat among us. But it is useful, I personally learned a good website from my colleague and I use it sometimes.*

Looking at peer-learning from a different perspective, Sima commented that teachers usually communicate new content, such as websites or mobile apps, however, rarely do they discuss the pedagogical aspects of those CALL materials or the procedure of language learning via those tools. It could be inferred from Sima's comments that peer-learning in CALL largely focuses on content (what), rather than pedagogical process (how).

4.6.2 Teachers' Preferred CALL Training

Having sought teachers' current CALL training forms, they were asked about their preferred ways of acquiring CALL knowledge and skills. The majority identified workshop and peer-learning as their preferred training types. Maryam, for instance, commented that in a CALL workshop, teachers *could get an in-depth understanding of that [particular] technology, and ask questions from the presenter*. Navid, as well, identified CALL workshops as a learning environment where participants could actively learn a new language

learning technology and get hands-on experience. Arash believed that organising workshops in the PLSs could even better connect the workshop content to the context-specific features of every school:

> *If we have a workshop here, I guess it would be based on the technologies that are available at the moment. Or maybe the school is planning to equip. Otherwise, what is the point about teaching something that we don't have it here? And it is not just a matter of equipment, but also the syllabus we follow here. So, I think a workshop informed with the school structure will be the best option.*

In these comments, Arash clearly highlighted the importance of holding context-specific training, which could improve teachers' skills according to their current practices. In a similar vein, teachers indicated that running regular peer-learning sessions could help them to improve their CALL knowledge and skills. Accordingly, Maryam commented:

> *They [teachers] can transfer knowledge to each other and share their experiences. I mean, newer teachers can learn from more experienced ones, and they would need to reinvent the wheel from scratch.*

Ava, on the other hand, believed that peer-learning is not always the best solution:

> *I think it [peer-learning] can be effective if it is not time-consuming. Because when I do the things on my own things go faster. If the teacher is using the technology independent of the others, it would be more useful to learn it individually.*

Overall, teachers found workshops and peer-learning environments as effective CALL training programs. Several teachers believed that self-directed learning in the online environment could be equally useful. Another important aspect of CALL training was reported to be the gap between CALL knowledge and skills. In other words, what teachers

knew about CALL or technologies in general, did not guarantee their extensive use of technology-enhanced language learning practices. Arash commented *it is not just about what you know about technology; it is mainly about how you can use the technology in real life situation in an effective way*. This comment once again highlighted the importance of connecting CALL training to the features of each PLS to allow teachers to put their knowledge of CALL into practice in their classes. Sima also believed that teachers' prior knowledge in ICT (information and communication technology) positively contribute to their achievements in CALL.

4.6.3 Training Students

Teachers highlighted the importance of training students for the successful implementation of CALL. They believed either teachers or the PLS administrations should assure students have adequate access to both technological tools and literacies before implementing CALL. Sima explained:

> *…specifically when you are working with older people, they are not that familiar with new technologies, like social networking tools. I believe when you as a teacher intend to use sort of technology which is all new for the students, you should teach them completely what to do and how to use that certain technology.*

Sima believed that older students need more support with technological literacies. A common view among the interviewees was that these days, students are familiar with certain technologies such as email and Microsoft Word, which eliminates the need for teachers to spend time on teaching students those applications. Ava expanded on this saying:

Well, it is part of my job to teach them and make them familiar with technology I intend to use. They might have used a certain technology for another purpose before, but the new application of the same technology might be unfamiliar for them.

Ava noted that pedagogical use of new technologies could be different from their everyday uses in life, and accordingly, the purpose and procedure of their use should be explained to the students. Talking about this issue, Reza commented:

Teacher should introduce, encourage and train students on how to use technologies. Well, it doesn't really take that much time. It is just a matter of communication and telling them what they don't know. If some of them have big problems, I can spend some time after class to teach them.

Overall, teachers perceived providing CALL training to their students as part of their roles and responsibilities which prepares the conditions for successful implementation of CALL.

4.6.4 CALL Training for the Future

As the final part of the interview, teachers were asked about their job security in the future. In other words, teachers were asked if they think lack of CALL knowledge and skills could threaten their jobs in the future. In response to this question, teachers initially highlighted the fact that the new generation of teachers has a lot of technological savvy. They attributed this technological knowledge to the shift in people's lifestyles, where technology plays an important role in their everyday lives. Arash commented *the younger generation is more into the technology, and teachers who use the technology are more welcomed with their students*. Ava, who was one of the youngest teachers in the group, commented:

Expectations are higher. Specifically, the new teachers who are younger. Because the presumption is that the younger generation knows more about the current technologies. But the expectations from older teachers would not be high.

In response to job security, participants provided a range of responses. Arash, for example, explained:

[lack of CALL knowledge is] not [a threat to teachers' job] in the near future, but, maybe five years from today. Even these days, teachers have begun to use different social media tools like Telegram; these might be for advertisement purposes. But I believe teachers using technologies like Telegram outstand their colleagues who follow the traditional ways.

Amir and Maryam also agreed that teachers who have greater technological skills and implement CALL are more favourable than their peers. Maryam explained:

If teachers are supposed to use the technology and have to do so, according to the guidelines to the school, lack of knowledge would be a great threat. I think the use of technology is a new phenomenon in Iran, and the first steps are always difficult. I agree that teachers who have better skills in using technology would make better teachers.

As seen in the excerpts, a common view among the interviewees was that use of technology is increasing in the PLSs in the Iranian context, however, with the current status, lack of CALL is not a serious threat for teachers' job. It was also mentioned earlier that PLSs do not have high expectations of their language teachers regarding the implementation of CALL, and thus, do not consider additional support for those teachers who integrate technology into their practices. Despite this, teachers considered CALL element as an integral

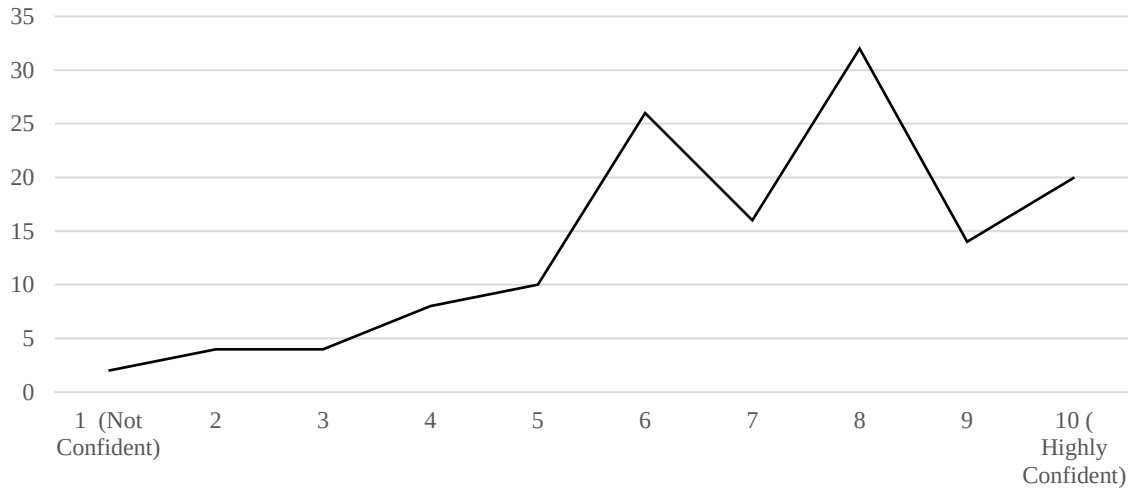
part of their job and believed that CALL could improve their quality of teaching, and ultimately, students' learning.

4.6.5 Survey Results

This section of the survey required respondents to provide information on the training that they had received or were receiving, for the integration of new technologies into their current teaching practices. They were also asked questions about their preferred ways of learning CALL knowledge and skills. The total number of questions in this section was 12, including Likert scale items.

Question 1 asked teachers to self-assess their confidence in using new technologies, by choosing a range of scores, starting from zero (not confident) to 10 (very confident). As illustrated in Figure 4.2, the majority of those who responded to this self-assessment believed that they had average to high confidence in implementing CALL. Further inferential analysis showed that older teachers assessed themselves relatively more confident in implementing CALL than the younger counterparts (see 4.7.1).

Figure 4. 2 *Teachers' confidence level in using CALL*



In response to Question 2, about the types of CALL training that teachers received, a range of responses was elicited. It should be noted that participants could choose more than one training type from the 5 five responses provided. They could also add other training types, if not included in the survey. The majority of the teachers (70%) reported they had learnt CALL on their own, or in other words, they were self-trained. At the other end of the continuum, only 5.7% of the teachers reported having experience of learning CALL by attending a training course organised by the schools. One-fifth of participants experienced learning how to use new technologies by interacting and sharing knowledge with other teachers in the school environment. CALL workshops and courses at university were other sources of learning the use of new technologies in language teaching. Many of the respondents who chose "other" also indicated examples of self-directed and peer learning; for instance, via using social networking tools and browsing the Internet for online resources.

To compare teachers' present CALL training with their preferred ways of learning CALL, in Question 3, teachers were asked how they preferred to learn and develop CALL skills. The results showed relatively different patterns. The majority of the teachers (47.1%) expressed their tendency to learn CALL by attending a workshop. Yet, nearly one in four still believed in learning CALL on their own. Not many were interested in other pathways, such as undertaking a course at university (7.1%) or learning from colleagues in a peer-learning environment (5.7%).

Questions 4 and 5 in this section investigated teachers' approaches towards learning CALL in a cooperative environment by sharing knowledge among teachers in the school. The majority of the teachers (71.4%) stated that they are likely to share their own CALL knowledge and experience with their colleagues. However, when asked about other teachers, they had divergent opinions. While slightly above 40% of teachers reported the existence of a collaborative environment among colleagues, the other majority (39.3%) believed that

teachers generally do not share their CALL knowledge with others. Further inferential analysis also showed that the older teachers are marginally more open to share their CALL knowledge with their colleagues and perceived this behaviour as part of their roles as a CALL teacher (see 4.7.1).

Questions 6 to 12 (Table 4.8) addressed the CALL training issue from different viewpoints. Many teachers (89.3%) supported the idea that the private language schools are responsible for training teachers on how to use CALL, and not a single teacher strongly disagreed. Further inferential analysis also showed that female teachers agreed more that schools are responsible for training teachers how to use CALL (see 4.7.2). They also indicated that teachers who know and implement new technologies in their practices are more effective teachers. In response to Question 8, more than half of the teachers felt that the lack of suitable technological infrastructure is not a demotivating factor for them to hinder their enthusiasm for becoming a CALL practitioner. Nearly three-quarter of participants agreed that teachers need to train their students on how to use the new technologies to create optimum conditions for CALL implementation. The number of teachers who agreed with the idea that language schools favour employing teachers with CALL knowledge was two times more than those who disagreed; while one in three neither agreed nor disagreed with this idea.

In question 11, respondents were asked whether they agree that early-career teachers are more open and keen to become CALL teachers and integrate new technologies into their practices. While the proponents (47.2%) of this idea easily outnumbered the opponents (16.4%), just over one-third of teachers remained neutral toward this question. Finally, in response to Question 12, over two-thirds of the participants (70.7%) said that they do not find it difficult to transfer their everyday life literacies of technology into the classroom environment, for pedagogical purposes. Further inferential analysis also showed that older

teachers found it slightly more difficult to transfer everyday-technology-use skills into the classroom environment (see 4.7.1).

Table 4. 8 *Percentage frequency distribution of participants' responses to Questions 6-12 (1=strongly agree, 2= somewhat agree, 3= neither agree nor disagree, 4= somewhat disagree, 5= strongly disagree)*

			Mean	Median	%				
		n			1	2	3	4	5
6.	Schools are responsible for training teachers how to use CALL.	140	**1.56**	1	59.3	30	6.4	4.3	0
7.	Teachers who know and implement CALL are more effective teachers.	140	**1.69**	2	49.3	37.9	10	2.9	0
8.	I am not motivated to learn CALL, because there is not a suitable technological infrastructure in my school.	140	**3.62**	4	11.4	14.3	11.4	26.4	36.4
9.	It is within my responsibility to train students how to use new technologies for language learning.	140	**2.06**	2	32.2	38.6	21.4	4.3	2.9
10.	Language schools favour employing teachers with CALL knowledge.	140	**2.64**	3	15.7	27.9	35.7	17.9	2.9
11.	Novice teachers are quicker in transferring into CALL teachers.	140	**2.68**	3	8.6	38.6	36.4	9.3	7.1
12.	Although I regularly use new technologies (e.g., smartphones) in my personal life, it is difficult to use them for language teaching and learning.	140	**3.70**	4	5.7	16.4	7.1	43.6	27.1

4.6.6 PLS Administrators' Perspectives on Training

For PLS administrators, integration of new technologies into their syllabus was not only a matter of improved language teaching/learning quality but also a means of competing with other PLSs in the competitive environment. One of the interviewees explained:

One factor to be able to compete with other schools is to update our use of technology, and my focus is on using cell phones for language teaching and learning.

Because they are really widely spread among adult learners and people have easy access to them. We are thinking of devising the application to help the students be connected to the school all the time and practice what they have learnt in the classroom. Actually, we are not thinking about designing the software, but we are trying to choose from the available software markets, preferably the free ones. Social media applications like WhatsApp or Telegram.

Comments above demonstrate that technology use in PLSs helps to attract more students. As this administrator mentioned, it is not cost-effective for the PLSs to devise their own customised application, so they prefer using the available and free applications in the market. This also means that PLSs do not need to spend money on equipping the school with new technological tools, and can rely on students' BYO devices, such as mobile phones and tablets. Another important point is that PLSs are trying to upgrade their technological tool for the same marketing reasons mentioned above, however, they do not necessarily demand their teachers integrate those technologies and benefit from their affordances. The same administrator acknowledged the need for training by saying:

Sometimes some teachers come to me and say why we don't have some friendly and scientific gatherings to prove ourselves and discuss the latest issues we have faced in our classrooms. I tried to support him and his issues. Yes, they come to us and we tried to support and sometimes even financially and give the opportunity to discuss the latest issue.

As mentioned in the above excerpt, CALL training is not part of the syllabus designed by the PLSs, however, they try to create some peer-learning opportunities in response to teachers' enquiries. Another administrator explained:

It [CALL] is very important nowadays as time goes on. We feel that teachers need to be comfortable with the use of technology. Those teachers who are familiar with technology can be more effective in teaching. Any case that we're choosing a teacher if both the teachers have the same level of English language knowledge we will go for the one which has a better knowledge of technology.

This was a recurring viewpoint among the administrators that technologically-informed teachers are expected to have better performance, in comparison to those who do not benefit from new technologies in their teaching. Another administrator believed that PLSs could only introduce new materials and resources for CALL before each term in the TTC sessions, however, it is the responsibility of the teachers to demonstrate an interest in CALL and try to improve their knowledge and skills in CALL. He explained:

I think it is something personal. It is everybody's responsibility to know the basics of technology in this world. What we do is to encourage them to learn more and give them some tips for learning educational technologies. I think these days, Internet is a great source of learning about these issues and there are many websites that offer free educational content.

Another administrator reported having a more organised way of training teachers for the implementation of CALL. She explained:

Any school, which intends to use a technology or follow a technology-integrated syllabus, should train the teachers for that purpose. Without proper training, we cannot expect the teachers to do what we intend. And that is what we try to do here. For example, we have a specific plan for using movies and songs for language learning, and we train our teachers how to do so, using computers, screens, and the Internet. Our assessment system is also online, and we train the teachers on how to use this

system. But regarding general software like Microsoft Word Processor, we assume that teachers have this basic knowledge of computer and we don't have specific training for it.

The comments above show that administrators expect all the teachers to be familiar with the basic ICT skills, such as using Microsoft Word and Internet browsing. She explained further:

The world is moving toward using new technologies in every aspect of people's lives, and teaching is not an exception. Clearly, teachers with higher technological knowledge will be preferred to those who are resistant to technology.

She concluded:

The use of technologies is increasing in Iran, and I think it will be more day-by-day. Because in most cases the infrastructure is there, and we only need to have a wise and clear plan to use the new technologies. For example, my next plan in this school is to digitalise the whiteboards, which requires a great amount of money. But this cost is worth paying because it adds to the value of the school and I think it affects students' progress positively.

4.6.7 Summary

The overall interview results revealed that teachers were mainly engaged in self-directed call training, using the available online resources on the internet. Teachers, however, identified peer-learning as another common way of acquiring new knowledge about CALL. Only three of the interviewees had the experience of attending CALL workshop, which found this type of learning effective and relevant. In addition, teachers identified workshop and peer-learning as their preferred CALL training types. They also highlighted the importance of

training students for the use of technology prior to the implementation. PLS administrators also acknowledged the need for running CALL-specific training, however, reported the existence of time and budget barriers.

The overall survey results also showed that CALL training is perceived as an important factor in preparing teachers for the use of new technologies in their practices. Many teachers reported being self-trained; however, they identified CALL workshop as their preferred training type. Participants highlighted the need for receiving training and support from schools. Likewise, they noted that teachers with CALL knowledge and experience would have higher chances of employability.

A comparison of administrators' perspectives shows that some of them have more ambitious and long-term plans for the integration of technology into their syllabus, and thus, they feel the need for providing the necessary training for their teachers. Whereas for some administrators, investment in technologies is not either possible or cost-effective, and they plan to work on what is available to them, which has resulted in the lack of CALL training for the language teachers. In either case, the importance of technology in today's language teaching/learning is acknowledged, and teachers with technological savvy are believed to have better performance.

4.7 Inferential Analysis of Teachers' Responses in Relation to their Age and Gender

To measure the effect of age and gender variables on participants' responses to survey questions, T-tests were conducted to investigate the possible variances. While several differences were observed in this data set, only a small number of them were statistically significant (Sig. value less than or equal to .05). In addition, effect size (Cohen's d) was calculated to measure the importance of the observed differences between means (Pallant, 2010). In Cohen's d, there are three indicators of effect size: small (0.2), medium (0.5) and large (0.8) (Pallant, 2010). The results in Tables 4.9 and 4.10, therefore, only show the statistically significant differences for each of the age and gender variables. These results are also presented with reference to the previously presented results in this chapter.

4.7.1 Age

Data were analysed to investigate the relationship between the teachers' age and their understanding of teachers' roles in computer-assisted language learning context. The initial age-related question in the survey, comprised 7 responses: Under 18, 18 – 20, 21 – 25, 26 – 30, 31 – 35, 36 – 40, Above 40. The first response (under 18) was only used to make sure that all the respondents were adults. The descriptive analysis of the remaining age groups showed that the distribution of participants in each age-group varied to a large extent, which made it unreasonable to compare the variances among the groups. To eliminate this problem, the responses to age question were merged into two groups: up to 30, and above 30. This resulted in an equal number of participants (i.e., 70) in each age group. Then, Independent-samples T-Test were conducted to compare the means between the two groups for each of the questions in the survey. The results demonstrated several examples of differences between the two age

groups, however, only six of these differences (Table 4.9) were statistically significant (Sig. value less than or equal to .05). Accordingly, Table 4.9 only shows the significant results.

Table 4. 9 *Group Statistics and Independent Samples Test, Age*

Group Statistics and Independent Samples Test							
	Age	**N**	**Mean**	**Std. Deviation**	**t**	**Sig. (2-tailed)**	**Effect size (Cohen's *d*)**
How do you assess your competence in implementing CALL? - CALL competency *(CALL Training, Q1)*	up to 30	70	6.66	2.309	**-1.99**	**0.049**	**0.33**
	Above30	66	7.39	1.984			
I share my CALL knowledge and experience with my colleagues at school. *(CALL Training, Q4)*	up to 30	70	2.46	1.282	**3.12**	**0.002**	**0.46**
	Above30	69	1.86	.974			
Although I regularly use new technologies (e.g., smartphones) in my personal life, it is difficult to use them for language teaching and learning. *(CALL Training, Q12)*	up to 30	70	3.91	1.139	**2.14**	**0.034**	**0.35**
	Above30	70	3.49	1.225			
I check and prepare the technological tools before the class. *(CALL Implementation, Q8)*	up to 30	70	2.31	1.123	**2.20**	**0.029**	**0.37**
	Above30	70	1.91	1.018			
I think technology helps me to manage my class time better. *(CALL Implementation, Q13)*	up to 30	69	2.03	.939	**2.40**	**0.018**	**0.40**
	Above30	70	1.69	.733			
By implementing CALL, I assess students' performance more effectively. *(CALL Implementation, Q15)*	up to 30	70	2.63	.745	**3.75**	**0.001**	**0.64**
	Above30	70	2.14	.785			

As illustrated in the table, the observed differences were in the areas of CALL implementation and training. The calculation of effect size demonstrated that the strength of the observed differences was around medium (0.5). That means, the observed differences are considered to be important. In relation to CALL training, the results show that the older teachers assessed themselves as being relatively more confident in implementing CALL than their younger counterparts. In contrast, they found it slightly more difficult to transfer everyday-technology-use skills into the classroom environment. Results also show that the older teachers are marginally more open to share their CALL knowledge with their

colleagues and perceived this behaviour as part of their roles as a CALL teacher (See 4.6 for more results on CALL Training).

With regard to CALL implementation, it was more important for older teachers to check and prepare the technological tools before the class. Finally, teachers above 30 expressed relatively stronger agreements towards the idea that CALL positively contributes to better and more effective time management and assessment (See 4.3.3 for more results on CALL Implementation).

While the reported differences above were significant, they only comprised a small portion of the survey questions. Therefore, it is concluded that the age factor, overall, did not have a significant impact on the way that teachers perceived their roles and responsibilities in a CALL context, with the exception of a few areas.

4.7.2 Gender

Independent-samples T-Test was conducted to compare the means between the two gender groups for each of the questions in the survey. Similar to age factor, the results demonstrated several differences, however, only four of these differences were statistically significant. Accordingly, the results in Table 4.10 only reports the statistically significant differences (Sig. value less than or equal to .05):

Table 4. 10 *Group Statistics and Independent Samples Test, Gender*

Group Statistics and Independent Samples Test							
	Gender	**N**	**Mean**	**Std. Deviation**	**t**	**Sig. (2-tailed)**	**Effect size (Cohen's *d*)**
Increasing use of computers in language teaching is a future threat for language teachers. *(Role of computers, Q5)*	Male	44	3.36	1.203	**-2.27**	**0.025**	**0.41**
	Female	94	3.83	1.084			
Schools are responsible for training teachers how to use CALL. *(CALL training, Q6)*	Male	44	1.91	1.053	**3.02**	**0.004**	**0.66**
	Female	96	1.40	.589			
I ask my students to design and develop CALL materials (for example, to create a weblog). *(CALL design, Q2)*	Male	44	3.59	1.041	**-2.71**	**0.008**	**0.49**
	Female	96	4.15	1.161			
When I implement CALL, I pay close attention to privacy, copyright and security issues. *(CALL implementation, Q7)*	Male	44	2.36	.942	**-2.71**	**0.008**	**0.49**
	Female	96	2.85	1.015			

As illustrated in the table, the observed differences were in the four different areas of CALL design, implementation and training and role of the computers. The calculation of effect size demonstrated that the strength of the observed differences was around medium (0.5). That means, the observed differences are considered to be important.

In relation to the roles of computers in language teaching, female teachers expressed slightly stronger disagreements towards the idea that increasing use of computers in language teaching could threaten their roles as teachers in the future (see 4.3.1). With regard to CALL training, female teachers also agreed more that schools are responsible for training teachers how to use CALL (see 4.6). Concerning CALL design, male teachers encouraged more student involvement in designing and developing CALL materials (see 4.3.2). Finally, in relation to CALL implementation, male teachers expressed slightly more sensitivity towards privacy, copyright and security issues when using CALL (see 4.3.3).

While the reported differences above were significant, they only comprised a small portion of the survey questions. Therefore, it is concluded that the gender factor, overall, did not have a significant impact on the way that teachers perceived their roles and responsibilities in a CALL context, with the exception of a few areas.

Chapter 5
Discussion

> "*If performances in the theatre were differentiated and predictable because actors were constrained to perform "parts" for which "scripts" were written, then it seemed reasonable to believe that social behaviours in other contexts were also associated with parts and scripts understood by social actors*" (Biddle, 1986, p.3)

5.1 Introduction

This study set out with the aim of assessing the importance of English as a Foreign Language (EFL) teachers' roles in promoting computer-assisted language learning (CALL) in the Iranian context. Drawing on Biddle's (1986) role theory, the study investigated the Iranian EFL teachers' understanding of their roles with regard to development, implementation and evaluation of CALL tasks/materials, within the environment of the private language schools (PLSs). The study, furthermore, explored the mainstream CALL training types received by the Iranian EFL teachers, and their potential impact on teachers' CALL practices (Hedayati, Reynolds & Bown, 2018). The following research questions were initially framed:

- RQ1: How do Iranian EFL teachers understand their roles and responsibilities with regard to CALL?
- RQ2: To what extent do Iranian EFL teachers' perceptions of their roles affect their use of CALL?
- RQ3: What are the expectations of Iranian EFL students and school administrators with regard to the use of CALL by Iranian EFL teachers?
- RQ4: What are the common CALL teacher training types in Iran and their impact on teachers' CALL practices?

Informed by the principles of the role theory (Biddle,1986), as highlighted in the excerpt above, the findings of the current study showed that, generally, the use of new technologies for language teaching is associated with the teachers' understandings of their roles within the school environment, and these perceptions shape and guide their practices. While these role definitions are partially constructed according to the teachers' personal characteristics and attitudes, expectations of the other stakeholders and contextual factors have a considerable impact too. For this reason, it is argued here that the limited implementation of CALL in the Iranian PLSs (Gilakjani & Rahimy, 2019; Hedayati, Reynolds & Bown, 2018) could be explained not only by studying the existing challenges and barriers (Dashtestani, 2014; Gilakjani & Rahimy, 2019; Khaksefidi, 2015), but also by investigating the teachers' understanding and definition of their roles with regard to CALL.

This chapter will present a comprehensive discussion on the findings of the study by integrating and interpreting the collected data (presented in Chapter 4), relevant findings from other studies, and the underlying theoretical framework. In view of this, the discussion is structured around the responses to the research questions.

As Biddle (1986, p.69) asserts “expectations are the major generators of roles”. Therefore, this study attempted to investigate teachers’ understanding of their roles in CALL by identifying and explaining their expectations of themselves, as well as the other stakeholders’ expectations of their roles. Prior to discussing teachers’ understanding of their roles in CALL and their current CALL practices, the key features of the context are highlighted here to provide us with a picture of limited use of CALL in the Iranian PLSs, and provide necessary background for presentation of the answers to the research questions. It is also essential to study the features of any language learning context where CALL practices occur and interpret/recommend the use of technology with regard to those contextual features and challenges (Levy, Hubbard, Stockwell & Colpaert, 2015). Chapelle (2003), similarly, asserts “teachers and researchers should carefully analyse their real options in view of the experience of others and their own context and experience” (p. 10). From a psychological perspective, likewise, individuals’ behaviours need to be studied in relation to the context, and this emphasises the impact of contextual factors on how individuals define their roles and behave accordingly (Biddle, 1986).

5.1.1 Key Features of the Context

Since English is considered as a foreign language in Iran (see section 2.4.2), and rarely spoken in the society, language learners have little chance to engage in meaningful communication in the target language, and their contact with the English language is mostly limited to the classroom environment. Aligned with earlier studies (Mohammadian Haghighi & Norton, 2017; Sadeghi & Richards, 2016), this explains the reason for adopting communicative approaches, such as communicative language teaching and task-based language teaching by the PLSs, rather than other rigid approaches such as Grammar-Translation Method (see 2.4.2 & 4.2). Adopting communicative approaches in the PLSs

provides language learners with ample opportunities to communicate in the target language and particularly improve their listening/speaking skills.

Failure to gain necessary English language competencies in the public-school system has encouraged many Iranian language learners to attend the courses offered in the PLSs. The findings from the current study (as illustrated in Table 5.1), which corroborate the previous results (Khoshsima& Toroujeni, 2017; Mohammadian Haghighi & Norton, 2017; Sadeghi & Richards, 2016; Safari & Rashida, 2015), show that language teaching/learning patterns in PLSs and public schools differ in certain aspects.

Table 5. 1 *Comparison of language learning in PLSs and public schools*

Public Schools	**Private Language Schools (PLS)**
1.5 to 2 teaching hours per week	5 to 10 teaching hours per week
Grammar translation and reading methods	Task-based and communicative language teaching approaches
Emphasis on reading and writing skills	Emphasis on speaking and listening skills
Explicit teaching of grammar	Implicit teaching of grammar
Teacher-centred	Learner-cantered
Wide use of mother tongue in class	Limited use of mother tongue
Lack of technological tools.	Range of technologies available
Fixed class hours	Flexible class hours
Textbooks mainly include grammar and vocabulary list	Textbooks are communicative and accompanied by audio/video files
Absence of target language culture	Inclusion of target language culture
Less proficient teachers	More proficient and trained teachers
20-40 students in each class	5-15 students in each class
Summative assessment in a written form	Formative and summative assessment both written and oral

Consistent with earlier results (Khoshsima & Toroujeni, 2017), learning English (perceived as the active language of the Internet, communication, technology and science) is of great importance for many Iranians, and they tend to learn this language as an essential tool for their future success. For this reason, majority of the language learners in the PLSs are strongly motivated learners, and as it was observed, students generally communicate in the English language even when they are having a personal conversation with their peers in the classroom. This corroborates Sadeghi and Richards' (2016) results that many of the Iranians, especially the younger generation, are fluent speakers of English and demonstrate a passionate interest in learning English and practising it with foreigners who visit Iran.

Considering the points mentioned above, PLSs play major roles in foreign language teaching/learning in the Iranian context, and therefore, it is an ever-growing system which is also highly affected by the financial and marketing issues. Consistent with the findings from Sadeghi and Richards (2016), it was noted (see 4.6.6) that in the competitive context of the PLSs in Iran, the environment and physical features of the schools play an important role in their marketing and help them to attract and enrol more language learners. PLSs, therefore, pay close attention to their school environment and try to create a comfortable and friendly space for their clients to ultimately take a greater share of the existing market. As noted in the interviews (see 4.2.3), schools' socioculturally vibrant environment was favoured by the students, as they were keen to spend their language learning time in a welcoming and relaxed environment. This feature appeared to affect their decision-making when choosing a PLS for studying a foreign language. In this competitive environment among the PLSs, the importance of technological infrastructure and teachers' roles seemed to be undeniable.

One important observation, which has been largely neglected in the CALL research in Iran, was the teachers' job status and the respective teaching patterns and (as it is discussed later in this chapter) its impact on their CALL practices. Teachers taught various classes at

different proficiency levels within a day (up to three classes of 90 minutes), moving from one classroom to another (after a 15-minutes break time). Some teachers reported teaching in various PLSs during the week. Survey results also revealed that the teachers were mostly recruited as part-time teachers. These variations show that teachers need to adapt to varying teaching circumstances, with different learning materials (e.g., coursebooks and available technologies) and syllabi. Teachers mainly focused on covering the designated pages from the coursebooks within the allocated 90 minutes for each class (see Appendix 9). In this regard, Sadeghi and Khezrlou (2014) found out that the expectation of doing various works with the limited time and resources available, together with lack of gratification from the PLSs, is one of the contributing factors to Iranian language teachers' burnout. Implementation of CALL could create additional challenges, as Hubbard and Levy (2006) argue that teachers who choose to use technology should prepare themselves to play different roles from teachers who are implementing traditional methods. In view of this, it is crucially important to consider teachers' job conditions and see how CALL expectations could match those conditions (Hedayati et al., 2018).

The observed four PLSs were equipped with a range of technologies, varying from one school to another, however, some tools were commonly available in almost all the classrooms, such as CD/DVD players, speakers, and TVs or data projectors. Even within each PLS, the type of technologies available in each classroom was different, which indicates the need for the teachers to have lesson plans in accordance to what is available in each classroom and, as noted by Kessler and Hubbard (2017), make choices for CALL practices accordingly. In the survey, when asked about the availability of new technologies in the PLSs, the majority of teachers evaluated it as being 'neither good nor bad' (see 4.3.3.7). There are two possible explanations for this result. First, teachers possibly were not capable of accurately evaluating the available technologies, so they tended to stand in the middle.

Others, however, probably felt that the available technologies met the minimum requirements. Having other teachers responding as ‘extremely good’ and “extremely bad” possibly explains the differences among the PLSs in terms of the available technologies.

In comparison to the results from Hedayati and Marandi (2014), it is observed that the technological infrastructure of the PLSs has not improved much over the last few years, however, access to bring-your-own (BYO) devices seems to be considerably increased. The majority of the language learners owned smartphones, and many of them were connected to cellular data, which is not surprising as data retrieved from WorldBank website (http://data.worldbank.org*)* show that in 2017 over 60% of the Iranian population was considered as Internet users. Teachers encouraged students to benefit from their smartphones to access additional authentic materials or create new learning materials (e.g., take photos and describe them). Other major BYO devices were laptops and tablets owned and used by the teachers. It was revealed that mobile phones had received new educational roles. Mobile phones, hence, are not only not considered as mere distractions, but also are believed to help students to learn the target language by engaging in authentic tasks. Arash (one of the teachers), however, noted that mobile phones could be helpful if they are used properly, both in terms of amount and content. These results match those observed in earlier studies in the Iranian context that highlight the increasing role of mobiles phones in language learning (Dashtestani, 2016; Foomani & Hedayati, 2016).

One major application of mobile phones was the use of social networking apps. Telegram is one of the most widely used social networking tools in Iran, and according to data retrieved from Iran’s Department of Information and Communication Technology (https://www.ict.gov.ir), approximately 40 million Iranians (nearly 50% of the population) are Telegram users. These statistics demonstrate the pervasive role of this app in Iranians’ everyday communication in the online environment, as well as its huge potential for language

learning purposes in this particular context. Ghobadi and Taki (2018), for instance, found out that the use of Telegram stickers contributed to higher vocabulary gain among the Iranian language learners. As one of the teachers noted, people's everyday communications patterns are changing, and interacting via social media is getting more and more popular. This indicates having conversations with language learning purposes on social media could be equally fruitful and promote CALL practices. Hung and Higgins (2016) believe that using social media also means that language learners can connect to native speakers of the target language and engage in real-life interaction to enhance their communicative competences. This aspect of social media could be particularly useful for the Iranian language learners, as they have limited chances to engage in negotiation with native-speakers. The observed uses of social media in this study was holding online discussions and data sharing (e.g., short videos in English) after class hours in groups created on Telegram platform. While some teachers took part in these groups and facilitated the communication, other teachers preferred not to join the groups due to privacy concerns. Although these concerns could be partially due to cultural reasons, lack of knowledge of privacy issues in the digital world could be just as important.

PLSs administered different policies regarding Internet access. While one PLS provided both teachers and language learners with free access to the Internet via Wi-Fi, another PLS provided Internet access only to the teachers, and students needed to rely on their own Internet Data on their smartphones. Due to governmental restrictions, access to certain websites (e.g., YouTube) was blocked and teachers who intended to benefit from these resources needed to use Virtual Private Network (VPN) tools. This example clearly shows how implementing CALL practices (e.g., watching YouTube video) in certain contexts requires teachers to engage in additional activities (i.e., eliminate restrictions) and gain relevant knowledge (i.e., VPN). Obviously, in a country where YouTube is not blocked, the

teacher does not necessarily need to be aware of the VPN to implement CALL. This is why contextual factors, especially restrictions, could greatly impact teachers' use of technologies. Similiarly, Beatty (2013) comments that using Internet demands teachers to be aware of issues and risks such as digital viruses, misinformation, cyberbullying, censorship and pornography. This means use of online resources may expose Iranian language teachers to some risks, which explains why some teachers decide to avoid these resources at all.

The average Internet speed was 4.8 Mbps, which is lower than the global average Internet connection speed of 7.2 Mbps as reported on *Akamai.com* (2017). This speed was sufficient to easily browse on the Internet and access various resources or communicate with others and share files on social media apps. These results, however, contradicts the findings from Dashtestani's (2016) study, which identified the lack of Internet connection in the Iranian PLSs as a limiting factor for implementing mobile-assisted language learning. This rather contradictory result may be due to the fact that lower Internet costs in recent years have provided enhanced access to more people and PLSs. This means that the lack of access to the Internet is no longer a major barrier to CALL implementation in the Iranian context, although the Internet speed is still considered low compared to the global average speed.

The overall assessment of the context revealed that the observed PLSs had sufficient infrastructure, informed by the standards advised in Healey et al., (2008) work, to implement CALL practices. CALL encompasses a large variety of technology-enhanced language learning tasks which ranges from the use of digital dictionaries (Levy & Steel, 2015) to implementation of learning management systems (Chateau & Zumbihl, 2012). In contrast to earlier studies (Dashtestani, 2016), it is argued here that the present situation of the technological infrastructure in the PLSs are satisfactory, although not perfect, and this could not be the leading factor for the limited implementation of CALL. Hong (2010) further argues that in the high-tech milieu of language education, inadequate use of technology by

teachers is not the result of limited availability and accessibility of new tools in the learning contexts. It is, therefore, essential to find out how language teachers and students understand the affordances of the available technological tools and how these tools impact their teaching/learning plans and strategies. As Warschauer (2003) points out, “by being included in the process of behaviour, [tools] alter the flow and structure of mental functions” (p.110).

5.1.2 Role of Technology in Language Teaching

Results revealed that the majority of the teachers acknowledged the increasing role of the technology in language teaching and learning in the Iranian context and believed that existence or absence of technologies could impact their teaching practices. As one of the teachers (Mahin) pointed out, some technologies are becoming invisible parts of everyday practices, such as *when people don’t know something they just say ‘google’ it.* Bax (2003) calls this stage the normalised use of technologies, which means arriving at a point where technologies in education become invisible and embedded in the teaching and learning process. The above example shows that technologies such as the Google search engine are entering the PLSs’ environment, perhaps without teachers/learners being aware of them or planning for. As Amir described, today, students use technologies for various tasks outside the class, and they sometimes tend to use the same tools (e.g., camera) for similar purposes in the classroom environment. Prensky (2001) believes that new generation of students, referred to as ‘digital natives’, are often competent and proficient users of new digital technologies, and they are able to become producers of learning materials. As Chik (2011) asserts, it might be students’ true expectations to have a technology-integrated language learning experience. Hubbard and Levy (2006), likewise, believe that nowadays, teachers feel incompetent and ineffectual if they are not reasonably familiar with and implement CALL.

Teachers, however, did not perceive the increasing role of technology as a future threat to their jobs because they disagreed with the idea that computers could replace language teachers. This explains why, for many teachers, the role of technology was considered to be a tool, rather than a tutor; the distinction that Levy (1997) originally recognised for language teaching/learning technologies. Considering the cultural context of Iran, a great emphasis was put on the presence of the teacher as the stimulating force who motivates and guides the student' learning. As noted by one of the teachers (Navid), and consistent with previous studies (Levy & Stockwell, 2006), technologies do not change the traditional ways of teaching, but boost the learning environment and add new dimensions. This idea was further supported by emphasising the importance of human-human interaction in the language learning process. Blake, similarly, (2008) believes that "computers are not human and cannot interact with anyone in the sense that two human beings can" (p. 3).

These results, however, differ from some published studies. Kazeroni (2006), for instance, found out that some teachers attended CALL teacher training sessions merely to discover if they would be replaced by machines (i.e., technology) in the future. These differences could be attributed to the fact that teachers have different perceptions towards their roles and that of computer, which could impact their attitudes towards technology-integration too. Another possible explanation for these results could be teachers' increased familiarity with the new technologies which provides them with a more realistic picture of the situation and what technologies can or cannot do. Even though there may be some highly intellectual technologies that can perform human-like processing and practices, it should be considered how financially reasonable/feasible it is to use those technologies in the language learning context. As it was mentioned earlier in section 2.2.1, while projects such as PLATO were proved to be useful for language learning in early years of CALL in the 1960s, not many schools could afford it due to its high costs (nearly five million dollars).

Interviewees in the current study believed that the integration of technology had changed some aspects of the conventional roles of the language teachers to some extent. Teachers agreed that technologies are influencing the concept of language teachers as the sole source of information, and students often use their smartphones, for example, to look for new information. According to Amir, for instance, *as we go further, students ask less vocabulary question; they look up new words on the digital dictionaries installed on their mobile phones.* This shows that despite the perceived significance for teachers' roles in managing the learning process, students have begun to rely less on their teachers and they perform certain activities on their own by using the new technologies. Levy and Steel (2015) believe that in similar situations, teachers should play the role of facilitators to guide students' technology use.

From a different perspective, some teachers acknowledged the complementary role of technologies, believing that part of their roles could be performed by the new technologies. The feedback on speaking provided by websites such as *speechace.com,* for instance, was considered as valuable information which helps students to identify their major problems by listening to their own voices. This result is in agreement with Gilakjani and Sabouri's (2017) previous findings which showed teacher's positive attitudes towards the complementary role of pronunciation software. Some others, however, doubted the appropriateness of computer-generated feedback, arguing that amount and type of feedback need to be closely tailored to the students' learning background, which could be best addressed by a human teacher. Heift and Vygatkina (2017), likewise assert while computers provide helpful immediate feedback (usually on close-ended drills), they would probably fail to provide informative feedback for discrepancies that are not predicted and programmed. That explains the quality of technology-generated feedback depends on the type of technology and the implemented language learning task.

What is clear is that teachers had varying ideas regarding the roles that technology could undertake in language teaching and learning process. There was, however, a common sense among the participants that technologies available in their classrooms have unexploited potentials. This awareness, which has been advised by CALL experts (e.g., Arnold & Ducate, 2015), signals teachers' positive attitudes towards CALL. Many teachers admitted that they are not benefiting from technology to its potential. Ava, one of the youngest teachers, commented *technology is everywhere; everyone has a smartphone, access to Internet. I think we are missing the learning opportunities that technology holds.* It can be seen that the integration of technology is part of teachers' concerns for creating the optimum learning environment for the students. Reza, another teacher, even acknowledged the potential superiority of technology by saying *it can explain some parts even better than I do*. Then again, he suggested that teaching can occur without using a single digital technology. He emphasised, however, technology *can give students better learning opportunities with various tasks and activities*. This evidence shows that technology is perceived as a supplementary or complementary tool, but not an essential part of teaching.

It is also worth noting that the teachers highlighted the existence of certain drawbacks. The superiority of technology in providing students with various language-related information, for example, concerned some teachers to lose their authority in the classroom from time to time. As mentioned earlier, these concerns could be explained by the existing traditional approaches toward the teacher-student relationship in the Iranian context, where there is a great emphasis on the impact of teachers on students' learning process (Safari & Rashida, 2015). Safari and Rashida argued that these predefined roles for teachers and students need to be challenged and modified to create a dialogic and interactive relationship between teachers and students to make constructive changes to the learning environment. If that happens, teachers probably will no longer be threatened by the superiority of technology

in terms of information and data, and as Arash commented, *teachers should control the technology, not to be controlled by it*. The survey results (see 4.3.3.7), however, showed that for many teachers, technology does not harm their authority. This partly shows that the predefined roles for teachers are challenged and teachers are redefining their roles (Comas-Quinn, 2011).

While teachers appreciated the significant role and potential of technology in facilitating and accelerating teaching and learning, the observed practices and teachers' responses to CALL implementation questions, as well as previous results (Hedayati & Marandi, 2014), represent contrary results. Classroom observations revealed that teachers had limited and sporadic use of technologies. Healey et al. (2008) argue that language teachers have always been using technologies in their practices, but the ongoing arrival of new educational technologies demands to have comprehensive plans for the implementation of CALL. This explains why teachers in this study, despite access to a range of technologies and holding positive attitudes, demonstrated a sporadic implementation of CALL.

Language teachers' (limited) use of new technologies in their practices has been investigated and explained, adopting various perspectives. A common approach is to investigate the teachers', as well as the students', attitudes toward CALL (Chik, 2011; Mozafari & Wray 2013; Rahimi & Yadollahi, 2011). Another thread of research has attempted to identify the existing barriers to and challenges for technology use (Hedayati & Marandi, 2014; Khaksefidi, 2015; Rahmany, Sadeghi & Chegini, 2014). Yet others have addressed issues related to digital literacy and training (Lotherington & Jenson, 2011; Nia & Marandi, 2014). Studies based on the above approaches have provided valuable information. It has been, however, argued that the roles assumed for both teachers and learners in the CALL context should be reconceptualised (Comas-Quinn, 2011). In a similar vein, the

current study attempted to identify the Iranian EFL teachers' understanding of their roles in the CALL environment.

5.2. (RQ1) Teachers' understandings of their roles in CALL

In the following sections, teachers' understanding of their roles in CALL is interpreted and discussed according to the CALL teacher framework introduced by Hubbard and Levy (2006). The framework identifies four types of functional roles for CALL teachers: practitioner, developer, researcher and Trainer. This framework seems to appropriately describe the knowledge and skills that CALL teachers need to consider and ultimately acquire. The results showed that the teachers in this study assumed all these four roles, however, to varying degrees. As noted by Hubbard and Levy (2006), these functional roles are dynamic, which allows teachers to shift from one role to another at different stages and influenced by other contextual factors. Given this, the discussion also benefits from concepts of role theory (Biddle, 1986) to explain teachers' role definitions with regard to contextual factors. The following is a detailed discussion of each role

5.2.1 Teachers as CALL Practitioners

All the teachers in this study perceived themselves as CALL practitioners. This was not surprising, as according to Levy (1997) and Beatty's (2013) definitions of CALL, in any second or foreign language teaching and learning context that certain sorts of technologies are used, teachers are practising CALL. But that was not the main issue under investigation. The aim was to find out how teachers understand their roles with regard to various aspects of CALL implementation, particularly the aspects that have received little attention in the literature in the Iranian context.

Results revealed that teachers had limited and sporadic use of technologies. This is consistent with Godwin-Jones' (2015) findings that "teachers today are more likely to be using technology in a modular, nimble, and on-demand fashion, cobbling together online exercises, web resources, OER materials, and possibly mobile apps" (p.16). In a similar vein, the majority of teachers reported using technologies as a supplementary tool at certain points without prior planning. This explains how teachers perceived the role of technology within their traditional set of teaching roles and responsibilities. In other words, technology is not playing an independent role in the teaching/learning process, whereas it complements or supplements teachers' conventional core practices.

The most important finding was that the majority of the teachers reported having personal motivations and interest in implementing CALL, which indicates lack of institutional regulations and expectations for the true integration of technologies. According to Biddle (1986, p.69) "expectations are the major generators of roles" and the accompanying behaviours. The limited use of CALL by the teachers, therefore, could be attributed to lack of expectations of them to do so. What is surprising is that the PLS administrators had high expectations of teachers with regard to digital literacy, whereas they had no policies for reinforcing CALL implementation in the schools (discussed further in section 5.4). This could also explain the limited use of technology by the teachers, as having sound knowledge of technology does not automatically lead to effective use of them for pedagogical purposes (Hubbard, 2013; Koehler & Mishra, 2009). Warschauer (2003), likewise, does not perceive fluency with hardware, software, and operating systems as the ultimate goal for the CALL teachers. Majority of teachers also indicated that availability of up-to-date technological tools in the PLSs increases their motivation to implement CALL, which strengthens the idea that the surrounding elements could impact teacher's perception of their roles, and ultimately their behaviours.

Teachers had relatively high expectations of themselves, in terms of digital literacy as one of the teachers said: *I think if a teacher is using a tool, he should know more about it than the students.* This is in line with Zamani's (2010) findings where teachers believed that the use of new technologies in the classroom requires achieving a high level of computer literacy. This seemed to create a gap between teachers' current and desired knowledge of new technologies and consequently be the reason for teachers' reluctance to use the technologies available to them unless they have comprehensive knowledge of their applications. This evidence again suggests that teachers' perceived expectations of their roles could impact their practices. That being said, the new generation of learners, referred to as digital natives (Prensky, 2001), have a lot of technological knowledge, and it may be infeasible for some teachers to ever outperform them in terms of digital literacy. Observation results also revealed that teachers demonstrated a reasonable level of competence in basic ICT (e.g., browsing the Internet). Kozlova and Priven (2015) argue that competence in technology use for novice users could be achieved while learning how to use the technologies. That is to say, teachers do not need to postpone technology use until they gain a wide knowledge of technological tools, rather they should engage in practical learning while implementing a new tool/software.

Technical difficulties and problems during CALL implementation could create anxiety for both teachers and students (Dooly, 2009; Lee, 2016). Guichon and Hauck (2011) recognised fear of facing technical difficulties and losing control as contributing factors to teachers' resistance to use technologies. It was, therefore, important to seek the participants' understandings regarding this aspect of CALL. The majority of the teachers in this study preferred to solve the problems by themselves as the first alternative. Seeking technical support from school administration was selected as their second option. Teachers ranked seeking help from the students as the final possibility. While teachers perceived leading roles

for themselves with regard to facing technical problems, Guichon and Hauck (2011) recommend that problems need to be addressed and confronted with a socio-constructivist approach where everyone, including the students, contributes their skills. Adopting a similar approach may decrease the responsibilities delegated to the teachers and lead to increased use of technologies. Scrivener (2005) considers that at any point in the teaching process, teachers have a range of available options to solve problems in the classroom. This may involve a change in the activities provided or keeping the status quo.

The majority of teachers acknowledged that they should respond to students' possible negative predispositions toward CALL implementation. They, however, believed that not many students in this era are techno-phobic, and the reason for negative attitudes toward CALL is that some students think that they need to perform more tasks in the technology-augmented environment. One teacher (Amir) believed that *some students might think that they are missing out on valuable time with their teachers when they are working independently with computers*. This again signals the significance of the teacher's role in the Iranian context according to cultural beliefs, which is in line with the previous results (Jalali & Panahzade, 2014; Safari & Rashida, 2015). Teachers believed that these issues could be addressed by employing a well-designed CALL task and informing the students of all the expectation, objectives and the advantages of technology use.

Another important aspect of CALL implementation is the consideration of issues related to privacy, copyright and security of data in the digital world, which is also referred to as netiquette (Beatty, 2013). Although over 40% of teachers in this study expressed concerns regarding these issues, roughly one-third stated their neutral position. One in four claimed that they probably would not consider these issues at all. Considering the cultural structure of the Iranian society, lack of attention to these aspects of technology use could create some barriers for both teachers and language learners. While some teachers, for example, reported

being comfortable joining the online chat group on Telegram for the class, another teacher perceived that as a violation of privacy. In addition, the lack of explicit organisational policies and regulations regarding these issues adds to the ambiguities, and it seems to be the role of teachers to make decisions in this regard. Teachers also need to be cautious for using websites, such as YouTube, that are blocked by the government. Above issues show how the integration of technologies could bring new responsibilities and challenges for the teachers, which in some cases are interpreted as an added burden. This could encourage some teachers to minimise their technology use to avoid these challenges at all and follow their conventional teaching practices that are proven to be safe and recognised as acceptable by others.

While a major part of teachers' roles may be defined according to the expectations imposed by the institutional rules, according to Biddle (1986), teachers are the ones who make decisions about details. In a similar vein, results showed that teachers formulated certain policies and rules for CALL implementation, within broader imperatives of their roles as CALL practitioners. Some teachers, for instance, encouraged students to benefit from their smartphones during class time, another disagreed with this idea and required students to stay focused in the class. It shows that teachers had varying approaches toward policies of using mobiles phones. Some students tended to use their devices to engage in social media, browse the Internet, and even play games for non-curricular purposes. Given this, the usefulness of technologies such as smartphones could be managed by the rules and regulations practised by the teachers within the classroom environment. As Beatty (2013) explains, technology use is accompanied by risks, such as misinformation, and teachers need to be aware of these and prepare to prevent possible distractions. These findings align with the earlier studies that highlight teachers' roles in managing risk involved in CALL implementation (Wang &

Heffernan, 2010; Zainuddin & Halili, 2016). In the following section, teachers' roles as CALL developers are discussed.

5.2.2 Teachers as CALL Developers

Hubbard and Levy (2006) define CALL developers as "those who are actively engaged in the creation of something new or revision or adaptation of existing work" (p.12). Teachers provided several examples where they had integrated the technology into their practices, ranging from digital dictionary use on mobile phones to the Edmodo learning management system. The findings showed that the majority of the teachers perceived themselves as consumers of CALL materials, rather than developers, due to the availability and accessibility of technological resources factors. They preferred using commercially available technological resources, rather than creating a resource by themselves, as obtaining those resources requires less time and skill than creating them. They, however, reported designing CALL tasks with available resources and technologies. They believed a range of factors hinders their engagement with material development, even though they were interested in doing so. These include time limitations, lack of expectations, lack of appreciation and decision-making power.

As discussed earlier in this chapter (see 5.1.1), language teachers in PLSs have tight teaching schedules due to their job status. They commented that within the 15-minutes break between the classes, they have almost no time to spend on CALL material development. On the other hand, if they choose to spend time on material development after/before school hours, they would not be paid for those hours. Put another way, PLS teachers often receive no paid preparation time for their classes. It is, therefore, argued that the main barrier here is the lack of sufficient preparation time, contrary to the earlier studies which report lack of time in

general as a barrier to CALL material development (Dashtestani, 2014; Hedayati & Marandi, 2014).

Furthermore, teachers commented they receive no appreciation for CALL implementation in general and material development in particular. Similarly, lack of institutional expectations discourages teachers to leave their comfort zone, as their current practices meet the defined institutional expectations. In the long run, these beliefs shape the group norms in the PLSs, and all the group members incline to conform to those norms (Biddle, 1986). Hence, teachers' definition of their roles and expectations are shaped not only by individual values but also by the norms that are constructed in relation to the social conditions (i.e., PLS environment).

Similarly, it was observed (see 4.3.2.3) that teachers were not included in the decision-making process. Iranian PLSs are usually run according to the within-school regulations and policies defined by the administrators, who normally are the owners of the schools. It was noted (see 4.3.2.3) that potential contributions from teachers and students were overlooked in the system. In Hubbard and Levy's (2006) framework, in addition to functional roles, teachers could have different institutional roles, which include: classroom teachers (pre-service or in-service), CALL specialists and CALL professionals. As the terms suggest, CALL specialists and professionals are expected to have a wider knowledge of and expertise in the implementation of technologies in language teaching/learning. For instance, CALL professionals are expected to have demonstrated a specialisation in certain aspects of the discipline and actively engage in professional development (Hubbard & Levy, 2006).

Institutional roles for teachers in this study were perceived to be classroom teachers, with limited expectation about CALL knowledge and skills (for a discussion on limited vs. elaborated skills see Hubbard & Levy, 2006). It was then not surprising to see that at school level teachers were not actively involved in the decision-making process with regard to

CALL materials development (see 4.3.2) They, however, enjoyed relative autonomy in the integration of technology into their teaching within their class environment. While this autonomy could have advantages, one of the disadvantages was the sporadic and non-systematic implementation of CALL in each class. As mentioned in the previous section, due to lack of standards for CALL development and implementation within the PLSs, teachers' personal motivations are the determining factor in their technology-augmented practices (Hedayati, Reynolds & Bown, 2018).

It was also revealed (see 4.3.3) that textbook-based syllabus encourages teachers to consider covering book materials (within the limited timeframes) as their priority, rather than engaging in the creation of new learning tasks and materials. Then available content in the books provides a plethora of learning materials and activities that easily cover the 3-5 hours of class time per week. Survey results showed that many teachers perceived developing CALL materials as the responsibility of the language schools, not teachers. They perceived programming and creating software beyond their responsibilities and roles. Despite these, they believed that language teachers could positively contribute to designing and developing CALL materials/tasks which could appropriately meet students' needs and preferences. These findings corroborate earlier studies that teachers often tend to use the commercially available tools on the market, rather than designing and developing their own, as the latter demands extensive expertise, time and budget (Beatty, 2013, Godwin-Jones, 2017).

5.2.3 Teachers as CALL Researchers

Teachers as CALL researchers "attempt to discover new information relating to CALL or to pursue evaluation of the success of a CALL initiative" (Hubbard & Levy, 2006; p. 12). Blake (2008), similarly, argues that while many language teachers may not be able to get involved in CALL material development, it is essential for them to able to evaluate CALL

materials and practices. This, indeed, ensures that teachers have the capacity and knowledge to look for new technology-enhanced resources and benefit from them in their particular teaching context.

The current study found that teachers did not actively engage in researching and evaluating various tools for CALL purposes. They rather reported adopting a trial-and-error method as the main way to evaluate the effectiveness of a tool (often an available one) for their particular teaching context (see 4.4.5). This was largely attributed to a lack of support from PLSs. As teachers voiced, researching, finding and evaluating a suitable tool/material does not lead to CALL implementation unless PLSs are ready to supply those resources. In addition, time limitation hinders teachers' engagement in additional roles such as CALL researcher. It was also noted that researching and evaluating was not perceived (by either teachers or PLS administrators) as an integral part of teachers' roles, and accordingly, no expectations were held in this regard.

Teachers, instead, reported employing various methods to evaluate their current CALL practice, that is to say, reflect on their teaching with technology. While many preferred implicit evaluations, such as collecting information on students' learning rates or their feelings about technology use, others believed that direct elicitation of feedback is equally advantageous. As survey results showed, the majority of teachers supported the idea that if students do not favour a technological tool, they need to look for alternatives and find out what works best in their specific context. Wallace (1991) notes that teachers should reflect on not only their failures but also their achievements in any part of their teaching experience because this reflection can help them to decide which practices to avoid or repeat in the future circumstances. This means receiving positive evaluations from students could encourage teachers' use of technology.

Similar results indicated that teachers tend to carry out evaluation and reflection during the CALL practice, rather than evaluating the technology use after practice. This could be explained by the limited time available for teachers before/after class hours. Kumaravadivelu (2003) distinguishes between reflection-in-action and reflection-on-action. "Reflection-on-action can occur before and after a lesson, as teachers plan for a lesson and then evaluate the effectiveness of their teaching acts afterwards", whereas "reflection-in-action occurs during the teaching act when teachers monitor their ongoing performance, attempting to locate unexpected problems on the spot and then adjusting their teaching instantaneously" (Kumaravadivelu, 2003; p. 10). In the CALL context, it appears that in-action reflection could best address technical problems that teachers may encounter with technology use and act accordingly. On-action-reflection, however, could best assist teachers with finding out which technology worked best and what needs to be changed for next time. Chappelle (2003), likewise, argues that CALL evaluation should provide answers to questions like "So what? Did they learn anything? How do you know?" (p.119). Despite these, participants in this study reported that the limited available time allows them to only practice in-action-refection.

5.2.4 Teachers as CALL Trainers

CALL teachers as trainers, according to Hubbard and Levy (2006), are "those who are acting to build CALL knowledge and skills in others, rather than just language knowledge and skills" (p.12). This includes assisting students with CALL implementations, as well as mentoring or training other teachers. The current study found that the majority of teachers perceived themselves responsible for training students on how to implement CALL (see 4.6). As one of the teachers highlighted, older students appear to need more support with technological literacies and skills, compared to younger generations who are reasonably

familiar with widespread technologies such as the Internet. Similar to Romeo and Hubbard's (2011) findings, one teacher commented that students knowing how to use technology for general purposes do not guarantee effective use of the same tool for language learning purposes. Another important finding was that some teachers might take it for granted that all students are sufficiently familiar with common tools such as emails and overlook the importance of training and preparation for CALL implementation. While students' level of familiarity with new technologies could differ from one group to another, it seems essential for teachers to evaluate students' technological knowledge prior to implementing CALL. Romeo and Hubbard (2011), thus argue that language learners need to receive technical, strategic and pedagogical training (for further details, see section 2.2.8).

A common view among the participants was that increasing availability of BYO devices, such as smartphones, creates a cooperative environment among the language learners where they begin to share knowledge and learn from each other. This factor was believed to ease the burden on teachers for teaching new digital literacies to the students. Teaching pedagogical aspects of technologies, however, remains extremely significant. Bancheri (2006) recommends that teachers should help students to develop the ability to evaluate educational values of technological tools.

Teachers perceived peer-learning as an important aspect of CALL training among language teachers. They reported several examples of mutually learning from colleagues about new CALL tasks and materials. This type of training/learning, however, was mainly focused on introducing new materials, rather than the implementation process and pedagogical aspects. It was also revealed that these interactions do not occur on a routine basis, and teachers tend to share their CALL knowledge and ideas now and then. Teachers expressed positive attitudes toward creating professional learning communities for CALL purposes among the teachers in each PLS, where they can share their ideas and constructively

learn from each other (Burns, Menchaca, & Dimock, 2002). Facilitating such communities also requires support from the PLSs and the time that teachers spend on these programs needs to be appreciated in some ways.

The above-mentioned findings show that the teachers generally have positive attitudes toward becoming trainers with regard to CALL, however, it appears that the conditions for carrying out this role are not created in the PLSs. Teachers also acknowledged the fact that in each PLS there are teachers who are technologically more knowledgeable than their peers and could be of great help to assist their peers with CALL implementation and become role models (Biddle, 1986). There are also teachers who have a wider knowledge of CALL compared to their peers, but they are not willing to share that knowledge. It appears that for this group, superior knowledge of CALL is a tool to stand out among their peers in the competitive environment of the PLS.

5.3 (RQ2) The Impact of EFL Teachers' Perceptions of Their Roles on Their Use of CALL

While the major aim of this study was to investigate language teachers' understanding of their roles in CALL, it was also attempted to gather data on how these perceptions could impact teachers' classroom practices. The current study found that the use of new technologies for language teaching is associated with teachers' understandings of their teaching roles within the school environment, and these perceptions shape and guide their practices. Similar to the example from Biddle's (1986) study at the beginning of this chapter, it was observed that (see 4.3) teachers act (i.e., practice) what is written (i.e., expected) in their scripts (i.e., role definitions). Accordingly, teachers' limited use of technologies is largely attributed to a lack of institutional regulations and expectations, which impact teachers' understanding of their roles, and ultimately, their practices. This factor becomes

more significant when teachers collectively construct teaching norms according to the conditions of the PLSs and usually do not deviate from those norms (Biddle, 1986). Teachers' individual use of technology could not be maintained or increased in the long-term unless it turns into a norm in the PLSs, which receives appreciation. This is consistent with earlier studies, for instance, Beaven et al. (2010) consider three factors as essential factors for teachers' interest and motivation to use technologies: "the type of institution they work, their social status and their self-perception as a teacher" (p.8).

In some cases, surprisingly, teachers were observed to be using more technologies than they reported in the interviews. Amir, for instance, reported limited use of technology in the interviews, whereas, in the observation, he demonstrated introducing various activities using smartphones. This could have two explanation, either teachers underestimate their use of technology or some technologies have been normalised and invisible part of their practices (Bax, 2003; Kessler & Hubbard, 2017). While the first one could hinder teachers' professional development, the latter is perceived as a positive sign that indicates teachers' comfort and competence with technology use. Survey results showed that the majority of teachers disagreed with the idea that the implementation of CALL in the classroom brings them stress and anxiety. This could also be attributed to the fact that teachers reported using simpler technologies, avoiding the possible risks and complexities of using more advanced alternatives.

It was a common view among the teachers that regular implementation of CALL is not perceived as part of their jobs, and likewise, observation results demonstrated similar patterns of sporadic use of technologies in teachers' practices. Biddle (1986) states that expectations are the main generators of roles and behaviours, and considering this, lack of external expectation influences teachers' use of technology. In addition, teachers' high expectations of themselves regarding digital literacy seemed to create a gap between their

current and desired knowledge of new technologies and consequently be the reason for teachers' reluctance to use the technologies available to them, unless they have comprehensive knowledge of their applications. Kozlova and Priven (2015), in contrast, argue that competence in technology use for novice users could be achieved while learning how to use the technologies, and therefore, teachers should not postpone technology use until they gain higher levels of competence in ICT.

Zhao and Cziko (2001) emphasise that teachers would be reluctant to use new technologies unless they perceive it as a facilitative tool that does not impede their progress towards achieving other major goals. In a similar vein, teachers reported using simpler technologies, avoiding the possible risks and complexities of using more advanced alternatives. As Healey et al. (2008) noted, inappropriate use of technology could involve risks such as loss of privacy and theft of personal information. Thus, for some teachers, it is safer to avoid technology at all. This evidence, which accord with the earlier findings (Phillippo & Stone, 2013; Valli & Buese, 2007), shows that the way teachers understand their roles in CALL context impacts their use of technologies in their practices.

5.4 (RQ3) Expectations of Iranian EFL Students and School Administrators with regard to the Use of CALL by Iranian EFL Teachers

The findings revealed examples of minor mismatches between teachers' expectations of their roles with that of students' and administrators' expectations. What is surprising is that PLS administrators had high expectations of teachers with regard to digital literacy, whereas they had no policies for reinforcing CALL implementation in the schools. It appears that administrators mistakenly believed that wide knowledge of technology could alone lead to CALL implementation, without developing and following a particular instructional design for

technology integration (Chappelle, 2003). In comparison, teachers had a relatively more modest expectation of themselves with regard to technological knowledge and did not expect themselves to be ICT experts. Majority of teachers, however, believed that they need to have a wider knowledge of technologies than language learners in a CALL context.

Results from the interviews with the students revealed that they perceived technology use as part of the teachers' roles and expected them to integrate new technologies into their practices, as they believed technology could bring about enhanced learning opportunities and add fun to the language learning experience. They, however, did not expect teachers to have profound knowledge of new technologies and appreciated the fact that the use of technologies has certain intricacies. In contrast, it was also believed that technology use could be time-consuming and unessential at some points. This feedback indicates that students are aware of the potentials of CALL practices and evaluate the effectiveness of those practices according to their own beliefs. Consistent with earlier studies (Ghobadi & Taki, 2018), students also expressed their willingness to become involved in CALL material design and development where they can benefit from technological knowledge for language learning purposes. It seemed, however, that teachers either neglected these unexploited potentials, or the required conditions were not present at the PLSs to encourage this type of engagement.

Despite the above dissimilarities, teachers, students and PLSs administrators shared common views on the importance of human interaction in a CALL environment. In other words, they all agreed that the presence of teachers is crucial in CALL practices. For the students, teachers were perceived as facilitators who could provide better learning opportunities, believing that computers have limited capacities in responding to students' individual needs. These were reflected in one of the students' comments when he said *no one can make a robot that has a communication with you like a human, have fun, tell joke… these activities in the class encourage students to learn*. In a similar study, after running a

computer-enhanced writing course, Hajimaghsoodi and Maftoon (2018) found out that teachers were considered as the primary source of knowledge and guidance, assuming computers as complementary aids.

These results indicate that the various stakeholders need to arrive at a common understanding of what is expected from teachers with regard to CALL, and how each stakeholder could contribute to the successful integration of new technologies to language teaching/learning. Evidently, the existence of mismatches here could result in creating challenges which may result in discouraging or limiting teachers' use of technologies. These findings corroborate the earlier studies that "the diversity of student, teacher and institutional technological understanding raises questions about the disparity that exists between the values and expectations each group places on technology" (Evans, 2009; p. 149).

5.5 (RQ4) Common CALL Teacher Training Types in Iran and their Impact on Teachers' CALL Practices

Prior studies have emphasised the importance of CALL training for preparing teachers to integrate technology into their practices (Arnold & Ducate, 2015; Egbert, Paulus & Nakamichi, 2002; McNeil, 2013; Wildner, 2013). Teachers could receive this training through informal (e.g., individual experimentation) and formal (e.g., CALL workshop) learning pathways, and be prepared for the upcoming changes, interactive materials, and a social future (Kessler & Hubbard, 2017). Accordingly, this study investigated the current CALL training types in Iran and its impact on teachers' CALL practice.

Consistent with the results from Kessler's (2006) study, the majority of respondents reported they were self-trained in CALL (Hedayati et al., 2018). Considering the fact that the majority of the participants held university level degrees in English language related subjects, it was surprising to find out that they had not received CALL-specific training. It was also

noted that the rare cases of CALL-specific training had theoretical nature and did not provide teachers with the opportunities to gain hands-on experience with various tools. This finding further supports the idea that focus on theory-based training "may lead to technology learning but not necessarily to its use" (Egbert, Paulus, & Nakamichi, 2002; p. 111). In a similar vein, Hubbard and Levy (2006) differentiate between CALL knowledge and CALL skill, where the first one is about what the teacher needs to know, and the latter explains what the teacher should be able to do. Arnold and Ducate (2015), likewise, identified the active experimentation with tools in a relevant context as a key aspect of CALL training in and believed that this type of development takes time and could not be achieved in a short period.

These results accord with earlier research in the Iranian context (Hedayati & Marandi, 2014), and highlight the necessity for changes in the content of language teacher training courses at the university level (Hong, 2010). Dooly (2009) argues that becoming a CALL teacher requires going through various stages, which starts with awareness of ICT's relevance to their teaching practices; then continues with actively seeking methods to improve their knowledge and skills; and finally, teachers develop coping strategies and new ideas for innovation. As Levy asserts (1997), the context of CALL is dynamic due to the rapid development of new technologies, and therefore, training packages need to be flexible too, which means not being technology-led. What is clear is that the current teacher training at the university level in Iran does not provide the opportunity for teachers to gradually go through the developmental stages and gain practical knowledge of CALL practices.

Comparison of teachers' current training types and their preferred ways of learning CALL yielded important results. Majority of teachers chose self-training as their current training types, and not many had the experience of learning CALL by attending a training course organised by the PLSs. When asked about their preferred ways of learning CALL, the majority of the teachers expressed their tendency to learn CALL by attending a workshop.

Yet, nearly one in four still believed in learning CALL on their own. While Kessler (2006) acknowledges teachers self-directed lifelong learning, he highlights the need for empowering this learning type with theories and principles of CALL, together with hands-on practices. Once again, it is observed that training at the university level is not among teachers' either current training or preferred ways of learning CALL. This lack of interest is largely attributed to the lack of robust and practical CALL units in teacher training courses offered by universities (Hedayati et al., 2018).

Survey results indicated that almost all the teachers agreed with the idea that PLSs should provide context-specific CALL training for teachers. Considering the fact that most of the teachers indicated that they had undertaken teachers training course (TTC) in their PLSs, it appears to be the best opportunity to familiarise teachers with CALL. As it was discussed earlier in this chapter, PLSs have a satisfactory variety of technologies and what is essential at this stage is to encourage and train teachers to benefit from those tools. As survey results showed, teachers even indicated that limited availability of suitable technologies is not a demotivating factor for learning CALL. In addition, it is important for teachers to be aware of the contextual factors and barriers and design and develop CALL task/materials accordingly (Hedayati et al., 2018).

Sporadic and non-systematic use of CALL, as discussed earlier in this chapter, appears to be partly the result of poor, if not lack of, appropriate CALL training among the Iranian EFL teachers. In the current study, no instructional design for CALL (Chapelle, 2003) was reported to be provided by the PLSs, which indicates a lack of plans for the systematic implementation of CALL. Teachers indicated positive attitudes towards receiving CALL training, believing that teachers who know and implement CALL are more effective teachers. This attitude is consistent with Blake's (2013) argument that "technology will not replace

teachers in the future, but rather teachers who use technology will probably replace teachers who do" (p.14).

While some agreed that PLSs favour recruiting teachers with CALL knowledge, others believed that it is not a determining factor. Teachers, likewise, had varying opinions in response to the idea that novice teachers are quicker in transferring into CALL teachers. A possible explanation for these results might be the fact that CALL is currently perceived as a supplementary part of teachers' practices, and teachers are at the stage of developing their understanding of its applications and affordances. Given this, at this point, practising CALL may help teachers to stand out among their peers and be seen as a better teacher by their students, however, its absence does not jeopardise the teachers' position. The situation, however, seems to be changing, and as teachers noted, CALL implementation may soon become an integral part of teachers' roles in the Iranian context.

Chapter 6
Conclusion

6.1 Summary

The main goal of the present study was to determine English as a Foreign Language (EFL) teachers' roles in the successful implementation of computer-assisted language learning (CALL) in the Iranian Private Language Schools (PLSs). One of the strengths of this study was recruiting teachers from 22 different cities all around Iran, including large (e.g., Tehran) and small (e.g., Dezful) ones. This variety can assure us that the voices of various teachers from different educational contexts have been heard, which in turn provides us with a more realistic understanding of the phenomenon.

The integration of new technologies into language teaching and learning is not a plug-and-play process (Cuban, 2009), rather requires careful consideration of the role transition that teachers experience (Comas-Quinn, 2011). CALL is a multifaceted process and involves various stages from design and development to implementation and evaluation. While it might be simple to identify teachers as CALL practitioners, it is difficult to gauge their level of engagement with CALL and see if technology has become an invisible and normalised part of their practices (Kessler & Hubbard, 2017). This means teachers could be involved in

CALL at different levels and stages, and identification of a teacher as a CALL practitioner does not provide much information about their successful use of technologies. Taking this into account, the current study explored teachers understanding of their roles in CALL with regard to a different aspect, so that the results provide us with practical knowledge of their technology use in the Iranian context.

This study has shown that the Iranian EFL teachers have limited and sporadic use of new technologies in their teaching practices in lack of proper CALL instructional design and external rewards from the PLSs. Simply put, they used technologies, because they were keen to, not because they were advised to. This means no institutional regulations and expectations were observed for the true integration of technologies in the PLSs, which ultimately resulted in teachers not perceiving CALL as an integral part of their roles. In contrast to earlier studies (Dashtestani, 2016), it was found that the present situation of the technological infrastructure in the PLSs is satisfactory, although not cutting-edge. New technologies are becoming even more available, especially by the increasing use of BYO devices such as smartphones. At the 30th anniversary of the World Wide Web (WWW), a larger number of Iranians have access to the Internet and the unlimited resources on this platform. Taking these into account, it is argued that the lack of technological infrastructure could not be the leading factor for the limited implementation of CALL in the Iranian context. While all the stakeholders (teachers, students and administrators) could equally play important roles in the integration of new technologies, the current study focused on the teachers' roles.

This study has found that generally, teachers' CALL practices are associated with their understandings of their roles and responsibilities in a CALL context. While some assumed roles of CALL material designers and developers for themselves, the majority perceived themselves only as CALL practitioners. These limited role definitions were partly attributed to lack of decision-making power and agency granted to teachers. In the top-down

organisational system of the PLSs in Iran, language teachers are not given sufficient opportunities to reflect on their roles and responsibilities, and they are largely expected to follow the prescribed teaching syllabi and resources. As Hubbard and Levy (2006) argue, the functional roles are dynamic, and it was seen in this study that degree of engagement with various roles largely depended on teachers' interaction with their surrounding context (Biddle, 1986), particularly amount of support received from the PLSs. Teachers, for instance, recognised institutional support and appreciation essential for encouraging their roles as CALL material developers. Accordingly, the majority of the teachers perceived themselves as consumers of CALL materials, due to availability and accessibility factors. Given this, it is speculated that provision of support (e.g., extended preparation time) for CALL implementation by PLSs could significantly impact teachers' understanding of their roles, and ultimately their CALL practices.

It was also revealed that teachers had relatively high expectations of themselves with regard to technological knowledge, which was the result of the sociocultural aspect of the Iranian context that shaped attitudes towards teachers' authority in a classroom environment. This seemed to create a gap between teachers' current and desired knowledge of new technologies and consequently be the reason for teachers' reluctance to use the technologies available to them. In other words, teachers preferred not to use new technological tools to avoid possible risks and intricacies. This situation is further intensified with the lack of institutional regulations and rewards for technology use. In a situation where both teachers and PLS administrators are satisfied with the status quo, it does not appear likely to observe serious intentions for transformations, which would encourage enhanced use of new technologies. Teachers perceived computers as supplementary tools that could improve their roles and efficacy, but not as an integral part of their practices, as it was noted teaching could occur without using a single technology. The findings showed that participants perceived

minor role changes for the teachers, due to limited and sporadic use of CALL in the Iranian PLSs at this point in time. That is to say, teachers used technology when needed, rather than having plans for technology integration into their teaching syllabus.

Additionally, it was found that teachers' understandings of their roles in CALL were influenced by several factors, including job status, institutional support and training. Working as part-time teachers, the majority of the teachers had limited time for preparation, and similarly, most of their CALL preparations, evaluations and reflections occurred during the teaching time. Any CALL preparations outside teaching hours are not rewarded by the PLSs, which demotivates language teachers to invest on something unnecessary. In addition, PLSs did not provide teachers with particular instructional designs for CALL implementation. As mentioned earlier, PLSs did not expect teachers to engage in an organised and regular CALL practice, which resulted in teachers not perceiving technology-integration as an integral part of their roles and responsibilities. In contrast, CALL teachers expected to receive technical and financial support and reward from the PLSs to maintain and improve their technology-enhanced practices.

With regard to CALL training, the majority of teachers in this study where self-trained and had personal motivations to gain knowledge and skills for the integration of new technologies into their language teaching practices. On the other hand, teachers were keen to receive context-specific CALL training, mostly in the form of workshops and within the teacher training courses (TTC) at the PLSs. It was also found that language teacher education programs at university level also lacked sufficient amount of CALL training, and the sporadic references to CALL in these programs were limited to theoretical discussions, at the absence of hands-on experiences. As acknowledged by Arnold and Ducate (2015), "CALL teacher education overall still appears not to be adequate and effective" (p. 1). It was observed in this

study that context-specific training could play an important role in teachers' successful use of CALL.

One important fact about the PLSs is that despite all the educational advantages they have, financial issues play an integral role in running these schools. The competitive environment among the PLSs, as well as teachers within each PLS, necessitates studying and interpreting the roles and behaviours in these systems not only through an educational lens but also from a financial perspective. In other words, the educational activities in the PLSs are highly influenced by financial issues. Most of the teachers, especially inexperienced ones, are underpaid, and they do not receive paid preparation times. Therefore, within the limited preparation time, teachers are inclined to focus on the key roles and responsibilities expected of them, such as covering the coursebook materials in a timely manner as prescribed in the syllabus. Taking this into account, there is limited, if any, time for CALL design, implementation and evaluation.

The current study has gone some way towards enhancing our understanding of the necessary conditions for teachers' role transition from traditional teaching to CALL practices. The results agree with the findings of other studies, in which it is argued that the sole availability of technological tools and teachers' positive attitudes towards technology integration (Fatemi Jahromi & Salimi, 2013; Zare-Ee, 2011) could not necessarily lead to the successful implementation of CALL (Godwin-Jones, 2015). It is emphasised that the teachers in CALL should gain related literacies and skills to be able to choose, use, and sometimes ignore technology for their learners (Chapelle, 2006). The successful implementation of technology in second language instruction requires trained teachers to be prepared to act effectively in CALL (Kessler & Hubbard, 2017). Iranian EFL teachers, therefore, need to receive the necessary CALL training, which could be in the form of a workshop or training within TTC programs. More importantly, PLSs need to provide the necessary support to

encourage teachers' use of new technologies, by providing financial aids, sufficient preparation time, and creating opportunities for professional development among teachers.

6.2 Implications

PLSs play integral roles in the delivery of English language courses in Iran, and accordingly, several studies have investigated the language teaching/learning processes in these educational environments (Mohammadian Haghighi & Norton, 2017). The findings of this study have important implications for language teachers, students and administrators to promote technology use in the PLSs. Language teachers should avoid the idea of postponing extensive technology integration only because they do not feel highly knowledgeable in ICT. As Kozlova and Priven (2015) argue, competence in technology use for novice users could be achieved while learning how to use the technologies, and therefore, teachers should not postpone technology use until they gain higher levels of competence in ICT. Teachers are also encouraged to challenge the current beliefs about teachers' roles (e.g., as the sole authority in the classroom) in the Iranian context. They need to work collaboratively with the students to promote making constructive changes to the learning environment. This constructivist approach highlights the significance of students' roles in the integration of new technologies into language learning.

As results indicated, students have wide access to technologies (e.g., smartphones) outside the classroom environment, which suggests that students need to be provided with the necessary skills to be able to examine various language resources on the Internet and select the appropriate tools for language learning purposes. It is clear that teachers could play important roles in this regard.

The results also indicate the need for developing appropriate and effective CALL teacher training programs that meet the needs of Iranian EFL teachers and students. The

implementation of gradual and systematic changes into current EFL teacher training courses is critical, for the success of CALL strongly relies on language teacher education (Hubbard, 2008). It is suggested that CALL teacher training is not appropriately provided in the Iranian PLSs and universities, which calls for considerable changes in these sectors. Despite the existing financial limitations, PLSs administrators need to find practical ways to provide appropriate training for the teachers to effectively get engaged in design, implementation and evaluation of CALL. Another important point is to provide teachers with their preferred modes of training, which in this study was found to be attending a CALL workshop.

PLSs also need to provide teachers with appropriate amount of preparation and reflection time before and after class hours, so that teachers can spend extra time on learning, designing, implementing and evaluating CALL. PLSs are also advised to create opportunities for the language teachers to engage in cooperative learning with their peers to share their CALL knowledge with each other. It is also very important to appreciate the current CALL practices of the teachers and provide them with the necessary support to sustain and enhance their use of technology in language teaching.

Universities are the leading language teacher training providers in Iran and the student teachers normally spend four years in these programs. Despite the fact that the majority of the participants in this study held university level degrees in English language related subjects, it was surprising to find out that they had not received CALL-specific training. Accordingly, universities should incorporate CALL-specific units into the programs, which would help prospective language teachers to improve their CALL knowledge and skills through theoretical and practical training.

6.3 Limitations

The findings in this report are subject to at least three limitations. First, due to the relatively small sample size in this study, in both qualitative and quantitative phases, the findings should be cautiously generalised to all the Iranian EFL teachers and PLSs. It is therefore expected that these findings tend to miss some teachers or PLSs that are currently implementing regular and systematic CALL practices after receiving appropriate training. In addition, with this relatively small sample size, the results of T-Test did not yield significant differences between the two age and gender groups overall. While several differences were observed in this data set, only a small number of them were statistically significant.

Second, the CALL practices in this study were investigated irrespective of the age and language proficiency level of the language learners. It is speculated that these factors could potentially impact teachers' integration of new technologies into their teaching practices. Finally, the scope of this study was limited in terms of the classroom observation period. Each of the teachers was only observed for one session of 90-minutes, and it is believed that more extensive observations could have resulted in gaining a better understanding of the teaching conditions in each classroom.

6.4 Further Research

The findings of the current study, as well as the abovementioned limitations, suggest that more research is needed to better understand language teachers' use of new technologies and CALL teacher education in the Iranian context. Further research might explore the impact of teachers' age, teaching experience and qualifications on their CALL practices and role definitions by recruiting a larger number of participants. In the future investigations, it might also be possible to conduct experimental research on various types of CALL training and analyse their short- and long-term effects on teachers' use of new technologies and role

definitions as CALL teachers. Another possible area of future research would be to investigate why TESOL courses at the university level in Iran fail to prepare language teachers capable of implementing CALL practices.

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Appendices

Appendix 1

Information Sheet

Introduction

This is an information sheet regarding a research project, which will investigate the roles of Iranian English as a Foreign Language (EFL) teachers in computer-assisted language learning (CALL). This project will examine how broadly teachers define their roles at different levels of CALL: design, implementation, evaluation, and training. The following researchers are conducting the current research:

- Mohsen Hedayati (student investigator), PhD candidate, Faculty of Education
- Dr Bronwyn Reynolds (chief investigator), Senior Lecturer, Faculty of Education
- Dr Andy Bown (co-investigator), Lecturer, Faculty of Education

This project is being conducted in partial fulfilment of the student investigator's PhD in Education at the University of Tasmania under the supervision of Dr Bronwyn Reynolds and Dr Andy Bown.

What is the purpose of this study?

It is anticipated that the findings of this study will help Iranian EFL teachers to improve their understanding of CALL, and consequently, feel more confident to integrate new technologies into their teaching practices.

Why have you been invited to participate?

As an Iranian EFL teacher, you have been randomly invited to take part in this study.

What will you be asked to do?

Should you agree to take part in this project, you will be involved in the following activities:

1. Classroom Observation: one of the sessions of your classes in the language school will be observed by the student investigator who will take notes of your practices.
2. ICT knowledge self-assessment: prior to the interview, you will be asked to complete ten questions related to your ICT knowledge. It is expected that this self-assessment will take less than 10 minutes.
3. Individual interview: you are invited to participate in an interview with the student investigator, which is expected to last no longer than 40 minutes. This interview will be audio recorded. After completion of the interview, you will have the opportunity to review and correct your transcript. You will be asked questions about how you would define your role at different levels of CALL: design, implementation, evaluation, and training.

Are there any possible benefits from participation in this study?

This project offers the opportunity for you to reflect on your teaching in ways that can help you improve your understanding of CALL, and as a result, be able to teach more effectively.

Are there any possible risks from participation in this study?

It is estimated that there are no foreseeable risks associated with this study for the participants.

What if you change your mind during or after the study?

Your participation in this research project is entirely voluntary and you are allowed to reject participation without providing an explanation. Similarly, if you change your mind once we begin the study, you can withdraw at any time without providing an explanation. Should you withdraw during three weeks after data collection, the data provided by you will be removed.

What will happen to the information when this study is over?

When the study is over, digital data will be stored on a password-protected disk drive in the University of Tasmania's storage space. Physical data will be stored in a locked filing cabinet at the University of Tasmania. Data will be retained for five years, after which it will be disposed of in consultation with the delegated head of the relevant data management organisational unit.

In relation to the individual interviews, your name will not be recorded, and codes (for instance, A, B, C) will be used instead of real names. Therefore, you can be assured that you will remain anonymous. In relation to the group interview, you will be invited to use pseudonyms to maximise confidentiality. In addition, by signing the consent form, you agree not to disclose the content of the group interviews.

How will the results of the study be published?
The results of the study will be published in the PhD thesis and research paper formats. In addition, the research team will provide you with a report about the findings of the study through the following link: https://www.dropbox.com/s/m93w4wwxsz1ynlq/Research%20Reprt.docx?dl=0

What if I have questions about this study?

Please do not hesitate to ask for more information about the project and your participation, in order to have a full understanding of what you are going to do. Contact details are provided below:

"This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on +61 3 6226 6254 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics reference number (H0015935)."

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This information sheet is yours to keep and refer to. If you are interested in taking part, you are invited to read and sign the attached consent form (you have one week to make a decision). Once I have received these documents, I will contact you to arrange a time for observation/interview that is convenient for you. If you decide you are not interested in taking part in the project, simply ignore this sheet, and no further contact will be made.

Appendix 2

Consent Form

I agree to participate in the research project led by Dr Bronwyn Reynolds from the University of Tasmania, Australia. In this consent form, the terms of participation are listed below:

1. I have been given sufficient information about this research project. The purpose of my participation as an interviewee in this project has been explained to me and is clear. I am also aware that the student investigator will observe one of my classes once.

2. My participation in the interview and class observation in this project is voluntary. There is no explicit or implicit coercion whatsoever to participate. I understand that I will not be paid for my participation.

3. Participation involves being interviewed face-to-face by the student investigator of this project. The interview will last approximately 40 minutes. The student investigator will also observe one of my classes once. Moreover, I will take a self-assessment test on my ICT knowledge. I allow the investigator to take written notes during the interview and class observation. Finally, I will take part in a group interview with other EFL teachers who participate in this study. I agree to be audio recorded during the interview sessions.

4. I have the right not to answer any of the questions. If I feel uncomfortable in any way during the interview session or class observation, I have the right to withdraw from the interview or observation. Should I withdraw during three weeks after data collection, the data provided by me will be removed.

5. I have been given the explicit guarantees that the investigator will not identify me by name or function in any reports using information obtained from the individual interview and observation and that my confidentiality as a participant in this study will remain secure. In relation to the group interview, I agree to respect the privacy of others and not to disclose any information from the interviews.

6. I have been given the guarantee that this research project has been reviewed and approved by the Ethics Committee at the University of Tasmania. For further questions regarding the research project, the EUI Ethics Committee of the University of Tasmania may be contacted through Katherine.Shaw@utas.edu.au or +61 3 62262763.

7. I have read and understood the points and statements of this form. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

8. I have been given a copy of this consent form co-signed by the student investigator.

Name & Signature of Participant: ---------- Date :
Name & Signature of Investigator: ---------- Date :

For more information, please contact: Dr Bronwyn Reynolds, University of Tasmania, Bronwyn.reynolds@utas.edu.au, +61 3 63243909

Appendix 3

Classroom observation form

School: _____ Class: ____ Number of students: ___ Date: _____ Topic: _

Teacher's code: _____ Age: ____ Gender: ____ Teaching Experience (years): ____

Criteria	Description/Comments
1. Types of technologies available in the classroom	
2. Teaching methods practised by the teacher	
3. Types of technologies teacher use during teaching	
4. Types of language tasks being taught using technology	
5. Teacher's confidence and skills in using technology	
6. How the teacher supports students with technology use	
7. How the teacher responds to possible problems occurring during the use of technology	
8. How the teacher responds to students' feedback on the teacher's use of technology	
9. How the teacher seeks help from the students for the use of technology	
10. How the teacher extends teaching beyond the classroom environment by the use of technology (e.g., homework)	

Further notes:

_____

_____

Observers Name: _____ Date: _____

Appendix 4

ICT Knowledge Self-assessment

Teacher Code:	How do you assess your ICT knowledge according to the following items? (You can answer 1 to 5, indicating how confident you are)	Not Confident	Slightly Confident	Confident	Highly Confident	Fully Confident
1	Knowledge of basic computer hardware (e.g., CD-ROM, Monitor, USB, Hard Drive, Webcam)	1	2	3	4	5
2	Knowledge of basic computer software (e.g., Windows, Media player, Microsoft Office, The Internet)	1	2	3	4	5
3	Downloading, installing, and running new software (e.g., Viber)	1	2	3	4	5
4	Solving a technical problem with a computer (e.g., recovering mistakenly deleted files)	1	2	3	4	5
5	Keeping up with the latest computer and mobile technologies	1	2	3	4	5
6	Computer-mediated communication (e.g., Skype)	1	2	3	4	5
7	Internet browsing and sharing data on the Internet	1	2	3	4	5
8	Using a digital camera, projector, scanner, and similar technologies	1	2	3	4	5
9	Designing Internet-based learning activities (e.g., Padlet, WebQuest, online chat groups)	1	2	3	4	5
10	Programming new computer or mobile software (e.g., creating a game/application)	1	2	3	4	5

Appendix 5

Interview Questions (EFL teachers)

Interviewee code: Age: 18-20 21-30 31-40 40-above

Gender: Years of Teaching Experience: Qualifications (degree):

Language Learning and Teaching Approaches

1. How would you describe your teaching approaches?
2. How do you think a second language is learnt the best?

Role of Technology

1. How do you perceive the role of computer (i.e., any kind of technology) in language teaching and learning? How does this role affect the role of the teacher inside or outside the classroom?
2. Is CALL worthwhile WITH or Without teacher's presence?

Design & Development

1. Have you ever designed/developed a CALL task/material? If yes, please provide details.
2. How much autonomy do you think teachers should have in designing/developing or selecting a CALL task/material?
3. How do you think teachers should/can design/develop tasks/materials for CALL?
4. Which curriculum type (pre-defined/ open-ended) do you perceive suits CALL best? Why (not)?

Implementation

1. Do you think teachers should have a wider ICT (technology) knowledge than the students? Why (not)?
2. How do you think teachers should deal with technical difficulties/problems during the implementation of a CALL task?
3. How do you think teachers should deal with students' negative/positive predispositions regarding the use of technology? Or students' lack of technology knowledge?
4. Do you think technology use makes your job as a teacher more demanding and complex? Or has facilitated? Please explain.

Evaluation

1. How do you think teachers should monitor and evaluate a CALL task/material?
2. How do you think teachers should receive students' feedback regarding a CALL task/material?
3. How do you think computers affect the authority of the teachers?

Training

1. As a language teacher, what professional learning have you experienced in relation to CALL?
2. How do you think teachers can learn CALL? What is the role of language schools and available technology tools?
3. How do you think teachers should help students to learn the use of new technologies for second language learning?
4. How do you think professional learning communities can help EFL teachers to develop their CALL knowledge?
5. How do you think teachers should deal with lack of knowledge about a technological tool?

Appendix 6

Interview Questions (PLS Administrators**)**

Interviewee code: Age: 18-20 21-30 31-40 40-above

Gender:

Role of Technology

1. How do you perceive the role of the computer? How do you think this role affect the role of the teacher?

Design

1. How do you perceive the role of the teacher in designing a CALL task/material?
2. How much autonomy do you think a teacher should have in designing/developing or selecting a CALL task/design?
3. How do you think teachers can design/develop tasks/materials for CALL?
4. Which curriculum type (pre-defined/ open-ended) do you perceive suits CALL best? Why (not)?

Implementation

1. Do you think teachers should have wider ICT knowledge than the students? Why
2. How do you think teachers should deal with technical difficulties during the implementation of a CALL task?
3. How do you think teachers should deal with students' negative/positive predispositions regarding the use of technology?
4. Do you think technology use makes teachers' job more demanding and complex? Please explain.

Evaluation

1. How do you think teachers should monitor and evaluate a CALL task?
2. How do you think teachers should receive students' feedback regarding a CALL task?
3. How do you think computers affect the authority of the teachers?

Training

1. What supports do you provide your teachers using CALL?
2. How do you think teachers can learn CALL?
3. How do you think teachers should help students to learn the use of new technologies for second language learning?
4. How do you think professional learning communities can help EFL teachers to develop their CALL knowledge?
5. How do you think teachers should deal with lack of knowledge about a technological tool?
6. How do you think language schools should support teacher with CALL training?
7. Do you think teachers who are more comfortable using CALL are more effective teachers? Please explain.

Appendix 7

Interview Questions (language learners)

Interviewee code: Age: 18-20 21-30 31-40 40-above

Gender: classroom level: elementary/ intermediate/ advance

Role of Technology

1. How do you perceive the role of the computer? How do you think this role affect the role of the teacher?

Design

1. What do you think the role of students can be in designing a CALL task/material?
2. What are your expectations from the teacher in designing a CALL task/material?
3. Have you ever been involved in designing/developing a CALL task/material?

Implementation

1. Do you think teachers should have wider ICT knowledge than the students? Why (not)?
2. How do you think teachers should deal with technical difficulties during the implementation of a CALL task?
3. What are your expectations of teachers during the implementation of a CALL task?
4. Do you think technology use makes the second language learning more convenient or complex for students? Please explain.

Evaluation

1. How do you think teachers should monitor and evaluate a CALL task?
2. How do you think students can provide feedback to teachers regarding a CALL task?
3. How do you think computers affect the autonomy of students?

Training

1. In what ways do you think students can help the teacher with learning new technologies?
2. How do you think teachers can help students to learn the use of new technologies for second language learning?
3. If your teacher has a weakness with the use of particular technology, how could it be addressed?

Appendix 8

Survey

Participants' demographics

Q1 Please specify your age range.

- ❍ Under 18
- ❍ 18 - 20
- ❍ 21 - 25
- ❍ 26 - 30
- ❍ 31 - 35
- ❍ 36 - 40
- ❍ Above 40

Q2 Please specify your gender.

- ❍ Male
- ❍ Female

Q3 Please specify your city, where you are currently teaching.

- ❍ Tehran
- ❍ Zanjan
- ❍ Isfahan
- ❍ Tabriz
- ❍ Mashhad
- ❍ Other (Please specify) _____

Q4 How many years of foreign language teaching experience do you have?

- ❍ 1 - 3 years
- ❍ 4 - 6 years
- ❍ 7 - 9 years
- ❍ 10years and above

Q5 Please specify your highest professional (university) degree (graduate or current student), related to the English language.

- ❍ Bachelor's degree
- ❍ Master's degree
- ❍ PhD
- ❍ I have no professional degree related to the English language

Q6 What is the title of your degree?

- ❍ English Language Teaching
- ❍ English Language Translation
- ❍ English Language Literature
- ❍ Other (please specify) _____

Q7 Have you completed the Teachers' Training Course (TTC) at any language school?

- ❍ Yes
- ❍ No

Q8 Are you a full-time or part-time language teacher?

- ❍ Full-time (teaching for 30 hours a week and more)
- ❍ Part-time (teaching for less than 30 hours)

Teaching approaches and methods

Q1 Choose any of the following language teaching methods/approaches that you implement (you can choose more than one).

- ☐ Grammar Translation Method
- ☐ Audiolingual Method
- ☐ Task-based Language Teaching (TBLT)
- ☐ Communicative Language Teaching (CLT)
- ☐ The Natural Approach
- ☐ Total Physical Response (TPR)
- ☐ Personal Methods
- ☐ No Methods
- ☐ Other (please specify) _____

Role of computers and teachers in computer-assisted language learning

Q1 How do you perceive the role of the computer in language teaching and learning?

- ❍ As a tool in the hands of the teacher
- ❍ As a tutor which can replace the teacher
- ❍ Other (please specify)

Q2 Computers can replace teachers in language teaching.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q3 The role of the computer is continuously increasing in language teaching.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q4 The use of computers has changed the conventional roles of language teachers.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q5 Increasing use of computers in language teaching is a future threat for language teachers.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q6 CALL creates an opportunity for students to have more active roles in the learning process.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q7 Existence or absence of computers does not affect my teaching practices.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

CALL material design and development

Q1 I design and develop CALL materials for my classes (CALL materials includes tasks, software, courseware, websites, online courses, programs, online learning environments etc.).

- ❍ Always
- ❍ Most of the time
- ❍ About half the time
- ❍ Sometimes
- ❍ Never

Q2 I ask my students to design and develop CALL materials (for example, to create a weblog).

- ❍ Always
- ❍ Most of the time
- ❍ About half the time
- ❍ Sometimes
- ❍ Never

Q3 I prefer using commercially available technological resources, rather than creating one by myself.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q4 Programming and creating software is beyond language teachers' responsibilities and roles.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q5 Developing CALL materials is the responsibility of the language schools, not teachers.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q6 Language teachers can play an important role in designing CALL materials.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q7 Teachers who design and develop CALL materials should be financially supported by their school.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

CALL implementation

Q1 The reason for using CALL for me is ...

- ❍ internal motivation (personal interest)
- ❍ external force (asked by school to use technologies)
- ❍ both internal motivation and external force
- ❍ Neither (please explain) _____

Q2 Roughly, what portion of the class do you dedicate to use of technological tools?

- ❍ % 100
- ❍ % 75
- ❍ % 50
- ❍ % 25
- ❍ none

Q3 How often do you use the following technologies in your teaching?

	Always	Most of the time	About half the time	Sometimes	Never
Personal computers and related software	❍	❍	❍	❍	❍
laptop	❍	❍	❍	❍	❍
smartphone or tablet	❍	❍	❍	❍	❍
data projector	❍	❍	❍	❍	❍
large screens	❍	❍	❍	❍	❍
Internet	❍	❍	❍	❍	❍
social networking tools	❍	❍	❍	❍	❍
Virtual Reality (VR)	❍	❍	❍	❍	❍
CD-Players	❍	❍	❍	❍	❍
TV	❍	❍	❍	❍	❍
computer laboratory	❍	❍	❍	❍	❍
other (please specify)	❍	❍	❍	❍	❍

Q4 For what purpose do you usually use technologies? (you can choose more than one answer)

- ❑ delivering materials
- ❑ listening practice
- ❑ writing practice
- ❑ speaking practice
- ❑ reading practice
- ❑ repetition
- ❑ homework
- ❑ others (please specify) _____

Q5 I usually use technological tools for language learning ...

- ❍ inside the classroom environment
- ❍ Outside the classroom environment
- ❍ Both

Q6 How do you assess the current availability of technological tools in your school?

- ❍ Extremely good
- ❍ Somewhat good
- ❍ Neither good nor bad
- ❍ Somewhat bad
- ❍ Extremely bad

Q7 When I implement CALL, I pay close attention to privacy, copyright and security issues.

- ❍ Definitely yes
- ❍ Probably yes
- ❍ Might or might not
- ❍ Probably not
- ❍ Definitely not

Q8 I check and prepare the technological tools before the class time.

- ❍ Definitely yes
- ❍ Probably yes
- ❍ Might or might not
- ❍ Probably not
- ❍ Definitely not

Q9 If any technical problems related to the use of technologies happen, I would ... (you can choose more than one answer).

- ❑ try to solve it by myself
- ❑ ask my students to help me out
- ❑ ask the school staff to solve
- ❑ other (please specify) _____

Q10 CALL teachers need to have a wider knowledge of technological tools than their learners.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q11 Availability of up-to-date technological tools in the school increases my motivation to implement CALL.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q12 It is my responsibility to respond to students' possible negative predispositions against certain technological tools.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q13 I think technology helps me to manage my class time better.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q14 The use of technology affects my authority in the classroom in a negative way.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q15 By implementing CALL, I assess students' performance more effectively.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q16 Implementation of CALL in the classroom brings me stress and anxiety.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q17 I prefer using simpler technologies in order to have better control over them.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q18 CALL is worthwhile and effective only with the presence of the teacher.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

CALL evaluation

Q1 When I use technology, I evaluate its effectiveness while I am using it.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q2 When I use technology, I evaluate its effectiveness after classroom hours.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q3 I try to receive feedback from students on the effectiveness of the technology I implemented.

- ❍ Always
- ❍ Most of the time
- ❍ About half the time
- ❍ Sometimes
- ❍ Never

Q4 If the majority of the students do not favour a technological tool, I try to use another tool.

- ❍ Extremely likely
- ❍ Somewhat likely
- ❍ Neither likely nor unlikely
- ❍ Somewhat unlikely
- ❍ Extremely unlikely

Q5 I evaluate the effectiveness of a technological tool based on students' language proficiency development.

- ❍ Extremely likely
- ❍ Somewhat likely
- ❍ Neither likely nor unlikely
- ❍ Somewhat unlikely
- ❍ Extremely unlikely

CALL teacher training

Q1 How do you assess your competence in implementing CALL?

	1 (Not Confident)	2	3	4	5	6	7	8	9	10 (Highly Confident)
CALL competency	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Q2 I learnt (am learning) CALL... (you can choose more than one answer).

- ❑ on my own
- ❑ from colleagues in my school
- ❑ by attending a workshop
- ❑ by attending a training course, organised by the school
- ❑ by undertaking a course at university
- ❑ other (please specify) _____

Q3 I prefer learning CALL ...

- ❍ on my own
- ❍ from other teachers
- ❍ by attending a CALL workshop
- ❍ by attending a training course organised by the school
- ❍ by undertaking a course at university
- ❍ other (please specify) _____

Q4 I share my CALL knowledge and experience with my colleagues at school.

- ❍ Extremely likely
- ❍ Somewhat likely
- ❍ Neither likely nor unlikely
- ❍ Somewhat unlikely
- ❍ Extremely unlikely

Q5 In my school, teachers share their CALL knowledge with each other.

- ❍ Extremely likely
- ❍ Somewhat likely
- ❍ Neither likely nor unlikely
- ❍ Somewhat unlikely
- ❍ Extremely unlikely

Q6 Schools are responsible for training teachers about CALL.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q7 Teachers who know and implement CALL are more effective teachers.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q8 I am not motivated to learn CALL, because there is not the suitable technological infrastructure in my school.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q9 It is within my responsibility to train students how to use new technologies for language learning.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q10 Language schools favour employing teachers with CALL knowledge.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q11 Novice teachers are quicker in transferring into CALL teacher.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Q12 Although I regularly use new technologies (e.g., smartphones) in my personal life, it is difficult to use them for language teaching and learning.

- ❍ Strongly agree
- ❍ Somewhat agree
- ❍ Neither agree nor disagree
- ❍ Somewhat disagree
- ❍ Strongly disagree

Appendix 9

Class activities in Sima's classroom

Time	Activity Description	Implemented Technologies
5 Minutes* (times are approximate)	Sima started class by greeting the students one by one calling their names, and at the same time, she ticked students' names on the attendance sheet. The event at this stage, students were called out with their English nicknames, which were included on the attendance list, next to their actual names.	
10 Minutes	Next, some time was spent on reviewing the lessons from the previous session. Sima displayed pictures of wildlife (previous session's topic) on a big screen using a data projector and asked students to describe them using the vocabularies they had learnt earlier that week. Students were allowed to use their notebooks to retrieve relevant information from the last session. They demonstrated a fair understanding of the newly learnt words, although few of them struggled to pronounce some vocabularies such as 'camouflage'.	Data projector Laptop Internet
30 Minutes	After, Sima introduced the topic of the day, which was about different jobs and their features such as income rate. She displayed pictures of different jobs on the big screen. She asked the students to name their dream job and describe its qualities. It was observed that many of the students used the digital dictionaries on their smartphones to look up the vocabularies that they needed to describe their dream job.	Smartphones Data projector Laptop Internet
20 Minutes	The previous activity was followed by another task, where students were invited to share their spending habits. A focal question was how much everyone spends on digital devices such as mobile phones. It appeared that Sima asked this question because she noticed that almost all the students owned smartphones, which made it a topic that everyone would have something to say about.	smartphones
10 Minutes	The class continued by watching a short part of a documentary about Bill Gates, the owner of the Microsoft company, as a sample of a successful person. The video was played on YouTube website,	Data projector Laptop Internet

	which is restricted in Iran, and apparently Sima was using some kind of VPN (Virtual Private Network) to unblock the website.	
15 Minutes	This activity was followed by a discussion where all the students shared their opinions.	

Class activities in Amir's classroom

Time	**Activity Description**	**Implemented Technologies**
5 Minutes* (times are approximate)	Amir also started class by greeting the students in English and then checking the attendance list (all the eleven students were present). Similar to Sima's class, students were addressed by their nicknames.	
10 Minutes	After, he connected his laptop (owned by himself) to the data projector and displayed the PDF version of the coursebook on the big screen. He introduced the topic for that day, which was tourism and travelling.	Laptop Internet Data projector
25 Minutes	Then he asked students to name a city or country that they had recently been to. He Googled the cities named by the students and displayed photos of them and asked other students if they had been to those places, or if they liked to share any relevant memories. The students hugely enjoyed this activity and were highly engaged by describing the places they had been to. The pictures projected on the big screen attracted students' attention, and they often referred to them during their descriptions. Some students also shared photos on their smartphones about their latest trips.	Laptop Internet Data projector Smartphones
30	After, Amir played an audio track form the coursebook where two people talked about their travel experiences, and students were asked to listen and respond to the comprehension questions. While doing this exercise, Amir wrote the new vocabularies and phrases on the board and explained their meaning in English. One interesting point was that when students asked the teacher for the English meaning of some Persian vocabularies, Amir invited them to use dictionary apps on their smartphones.	Laptop Speakers Smartphones

15 Minutes	As final a task, Amir asked students to get into pairs and tell their partners one thing that they liked about their last travel, and one thing that they did not. Finally, students recounted their partner's viewpoints to the class, and others commented on them.	
5 Minutes	Amir concluded the class by assigning homework from the students' workbook.	

Appendix 10

Table below shows example of excerpts for each of the identified major these in the qualitative data analysis part.

Identified Major Theme	Excerpt 1	Excerpt 2
Category one: Teaching approaches and contextual features		
Students as individuals	Arash: *It [best way to learn a new language] depends on your students, because various factors such as age are important. There are always students in my classes who learn quicker than the others.*	Mahin: *It really depends on the student. Different techniques and strategies work for different people.*
Motivation and independence	Navid: *The learner should feel the need for learning the language and then try to produce the language. Otherwise simple exposure to the language will not guarantee learning.*	Maryam: *I try to follow communicative teaching approaches, because I believe in this way learners are more motivated to learn the target language, and they like the new language more.*
The learning environment	Reza: *the environment is very important in learning a second language. It can be an educational environment or a group of friends. You know, something like these can pave the way for speaking and learning a new language. I can say context plays important role.*	Amir: *The class environment is the place for the students to learn English, as well as, practice English. If I don't spend time on practice English, I know that in most cases students would not practice it outside the classroom, at least as much as they need*
Authentic materials	Sima: *I use a lot of authentic materials in my classes like videos or newspapers. I think this help students to see how English language is used in real situations.*	Mahin: *That means using authentic materials is necessary as t teaches both the language and the way people interact in that language in different situations and contexts.*
Feedback and error toleration (this theme, for instance, was initially considered as two themes, whereas they were combined after further analysis)	Ava: *I usually try not to correct them (i.e., students) explicitly or let's say directly.*	Maryam: *you know students can learn English everywhere, listen to music, watch movie and … but what they need after is feedback to tell them where they are and how well they are doing.*
Time constraint	Maryam: *It is important for us to make good use of time in the class, because there is not enough time to work individually with each student. Especially when you have a big class.*	Amir: *The class time is very limited. In 90 minutes, you cannot do much, except providing students with the right learning pathways and resources so they can continue learning after class.*

Infrastructure and the Available Technological Tools	Classroom observation notes: *DVD Player and Speakers. Teacher-owned iPad, students-owned laptops and smartphones, data projector. Both teacher and students have access to Wi-Fi provided by the school.*	Classroom observation notes: *TV, CD Player, Tablet (teacher-owned), Speakers, Teacher has access to personal data Internet. All the students have access to Data Internet on their mobile phones.*
Use of Technologies in Language Teaching	Classroom observation notes: *The teacher began class by providing oral feedback to students' writings on Moodle. This feedback was in addition to prior written feedback on Moodle. Students asked question on how they can improve their writing and correct their mistakes.*	Classroom observation notes: *Teacher connected her tablet to speakers to play a voice for a listening task. This was following their previous session's topic on living in urban areas. Teacher played a video about life in a big city, which I think was Tokyo. Then she played a video about life in rural areas.*
Category two: Role of technology		
Increasing role of technology	Sima: *technology is getting into the people's lives these days, and wherever you go people have some kind of technology dealing with. It is the same story with the language classes.*	Ava: *Technology is an unavoidable tool for teaching that will continue to develop teaching methods and techniques and offer a versatile accessible environment for students.*
Tools or tutors	Maryam: *Well, I see computers as the tools in the hands of teachers which can facilitate teacher job.*	Reza: *I don't see it as a tutor, I think as tool it is very useful. The role of this tool can be large or small depending on how fit it in our classroom.*
Supplementary role of technology	Sima: *It is like I have several other teachers in the class who practice with all the students simultaneously.*	Amir: *Computers can be a great teacher aid and can boost students' independent learning; and this way less pressure on the teacher. It is particularly helpful with pronunciations and grammar tasks.*
Facilitation of individualised and extended learning	Arash: *L2 contact can be increased by technology, especially by increasing the access outside the normal constraints of the classroom via the internet.*	Maryam: *And sometimes when I introduce them a new language learning app, they begin to use them outside the class environment.*
Feedback	Ava: *In this way [CALL] you may not be able to ask your questions, or when you make mistakes there is no one to correct you and give feedback in way that the help the learner to learn, not simply show the mistake.*	Mahin: *there is need for a leader, someone who knows the way and provide students with feedback when necessary.*
Unexploited potentials of technology	Ava: *Technology is everywhere, everyone has a smartphone, access to Internet. I think we are missing the learning opportunities that technology holds.*	Navid: *Technology provides unlimited resources on the internet for language learning which I need to select from, and use in my class.*

The shifting role of mobile phones in language learning	Reza: *teachers used to be the primary source for students to ask questions about vocabulary, nowadays almost every student has a smartphone providing instant access to digital dictionaries.*	Arash: *Mobile phones, help students to learn the target language by engaging in authentic tasks if they are used properly, both in terms of amount and content*
Drawbacks of technology	Sima: *Teachers have greater potentiality in comparison to computers for modifying lessons according to learners' levels and immediate needs.*	Maryam: *Negative thing about using mobile phones is the distraction they can cause. Students may go off task and lose concentration. Teachers needs to constantly monitor their use in the classroom.*
Students' and PLS Administrators' Perspectives on role of technology	Student A: *It is possible to learn, but because there is no one to teach you, explain more about that word or grammar, you should try hard, very hard to learn that by yourself.*	PLS Administrator: *Teacher's role is undeniable, and they cannot be replaced by computers. But I think computers can help teachers greatly.*
Category three: Design and development of CALL materials/tasks		
Teachers' experiences	Maryam: *I mainly use PowerPoints. I try to deliver the contents of the paper book in the PowerPoint environment accompanied with some multimedia, like images, videos or sound clips.*	Navid: *I personally, use some websites that have reading tests. I use the content of these websites to assign homework for the students. I also use Edmodo in one of my classes.*
Developer/consumer dichotomy	Ava: *I use the existing tools, but the point is I need to think about how I should use that tool for specific language learning purposes. And I sometimes benefit from other teachers' experiences.*	Amir: *I usually use what is available on the Internet. So there I don't need to start from scratch, and I can benefit from what is available and what is recommended by others.*
Teachers as decision makers	Arash: *If I am a novel teacher, I prefer following the instructions received by the school about which type of technology to use. If I am a professional and experienced teacher in CALL, I would like to have my say*	Mahin: *I think the starting point is to assess what is available. Because if I plan using a new technology which is not available, I don't think school will be willing to fund me.*
Barriers to CALL design and development	Navid: *Any additional time I spent on using technologies would not be paid, because it is not considered part of my job, or something added to what they expect from me as a teacher.*	Reza: *the biggest barrier for me to use new technology is the time I need to discover new technologies, cause there are many tools out there now, and it is like choosing a shirt in a big mall*
Students' needs and prior knowledge	Maryam: *In fact this is why I choose PowerPoint over other apps, cause I think everybody is familiar it. It happens a lot in my classes where some students are interested in something, while others are not at all.*	Ava: *And [I] receive feedback from the students, which I think is very important. In this way I can make quick changes in case the tool is not useful for that class.*
Students' and PLS Administrators'	PLS Administrator: *If I consider it as a class-based thing, for example,*	PLS Administrator: *Let's put it this way, my ideal teacher regarding*

Perspectives on CALL design and Development	*when you are teaching following TBLT approach, the teacher has the role of designing. For example, if you are teaching a movie or you are teaching a piece of music, usually the teacher designs a worksheet*	*CALL, is the person who is familiar with some software, knows how to edit text, how to work with Photoshop, Excel, who knows a little bit about testing, knows how to design questions*
Category four: CALL implementation		
Teachers' ICT knowledge	Arash: *I think if a teacher is using a certain tool, he should know more about it than the students.*	Mahin: *I think so. If I don't have enough skills to use technologies, I may come across awkward situations.*
Students' engagement in technology use	Reza: *Using PowerPoints allows my students to express themselves in a different way. They have slides behind them which is a great help. It gives them structure how to present*	Amir: *I usually see that they install different language learning apps and come to me and ask if I approve that app. And interestingly quite often I haven't seen those apps before. Then I try to have look at it and give them some advice.*
Technical problems and issues	Sima: *that is the teacher's problem. I think in teacher preparation courses we can have some parts that we focus on the use of the technology and its difficulties.*	Maryam: *well, the first thing maybe is to ask the support from the institute. Or maybe stop the practice and postpone for another time, and continue the lesson with other alternatives*
Technology as a facilitator	Amir: *CALL can be a double-edged sword. If done properly it can facilitate our job to a great extent; otherwise, it would just make it worse*	Reza: *I think it helps me to have a better performance, if not easier. I mean, I as a teacher need to have a variety of task and plans for my class, and technology helps me to achieve this variety.*
Teacher's authority	Arash: *I do not think it [CALL] will [affect teacher's authority]. I do not see my authority as being a dictator in the class. My authority/role is like manager who is responsible for creating a good learning experience for the students.*	Maryam: *Student should understand that the teacher is using technology just as a tool, and I don't think it can affect the authority of the teacher.*
Outside-classroom CALL	Navid: *I want the students to read the new materials before coming to class, so that we will have more time for practice in the class*	Mahin: *Usually when I introduce an app to my students, they use it autonomously outside the classroom. I mean it doesn't necessarily become part of the syllabus to be used regularly.*
Privacy concerns	Sima: *I don't want students to have my personal contact.*	Arash: *Using technologies like social media that maybe reveal students' personal information can be tricky. That is why I need to tell them beforehand for what reason we use this tool, and what they can share*

Students' and PLS Administrators' Perspectives on CALL Implementation	Student C: *If I know about one App I can share it with teacher; maybe he gives me a positive [reward].*	PLS Administrator: *I believe they [teachers] should be one head and shoulder above the level of students to equip themselves with new technologies.*
Category five: CALL evaluation		
Evaluation mode	Ava: *One important way [to evaluate CALL] is to check the student's progress. If technology helps the students to make more progress, it can be inferred that the use of technology has been beneficial.*	Navid: *Well, the first evaluation tool would be the performance of the students. If the students demonstrate better performance and higher motivation to pursue the task, I can see that they are interested in the program.*
Category six: CALL Training		
Teachers' current training	Arash: *I have attended several workshops related to CALL. The hands-on experience can be achieved in a workshop…*	Ava: *No we didn't have [CALL Training at University]. We just read few articles about CALL during teaching methods unit.*
Teachers' preferred CALL training	Maryam: *I think a good resource is the Internet. There are many websites which guild teachers how to use new technologies. The point is the learnt plan or program should be practiced in the classroom to check its usefulness for that*	Amir: *Professional development sessions and workshops [about CALL] can be helpful*
Training Students	Reza: *teacher should introduce encourage and train students how to use technologies. Well it doesn't really take that much time.*	Mahin: *If there something that I know and they don't, yes I can train them before we use it. But it is not usually the case, students these days are very familiar with technologies like Internet and websites.*
CALL training for the future	Amir: *Teaching is a lifelong learning process. Teacher should make themselves familiar with technology with hands-on practice or attending PD sessions.*	Ava: *the presumption is that the younger generation [of teachers] know more about the current technologies. But the [CALL] expectations from older teachers would not be high.*

Table below shows an overview of the qualitative data analysis for one of the identified themes in the previous section.

	Process					
	Data selection and reduction	**identification of key information** (e.g., key words)	**Filed note and question (**examples)	**Coding**	**Themes**	**presentation and interpretation of findings**
Excerpt 1	*I have attended several workshops related to CALL. The hands-on experience can be achieved in a workshop…*	workshop, CALL, hands-on experience.	*This training may or may not have been experienced by other language teachers. why? Are they not willing to do so?*	Attending CALL workshop	**Teachers' current training**	…Teachers commented that the language teaching courses at university, regardless of degree level, as well as training in the PLSs, lacked specific CALL training which would demonstrate various uses of technology in language teaching, at both theory and practice levels… (see 4.6.1 for detailed information)
Excerpt 2	*We had just few discussions during my [university] degree about the use of new technologies in language teaching/learning.*	technology, discussion, university	*This teacher seems to be unhappy with the training received at university.*	CALL Training at university		
Excerpt 3	*And we also didn't receive any specific training in the school to be CALL teachers.*	training, school, CALL, teacher	*This training refers to TTC which prepares PLS teachers for the upcoming terms.*	CALL training in PLS		
Excerpt 4	*[I learned about CALL] just on my own. But no much technical. I have tried to learn what can help me to progress my task in the class*	own, learn, CALL, technical, class	*This teacher seems to have a very practical approach towards learning CALL*	Self-directed learning		